The Oil and Gas Journal

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BAKER
SAVE A WELL
CEMENT RETAINER

BAKER
CEMENT RETAINER

CASE STUDY NO. 408

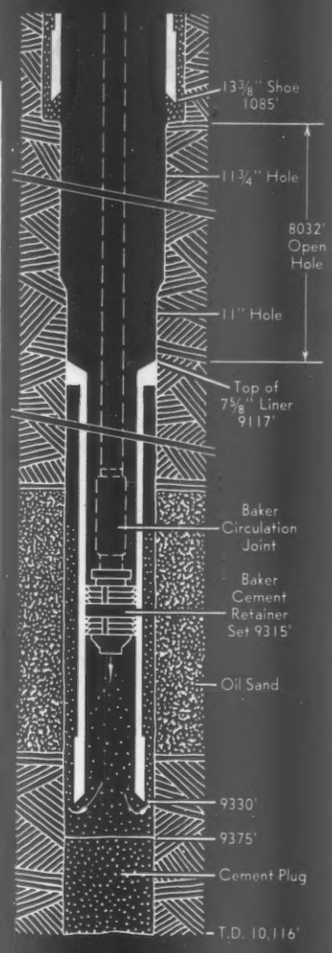
PROBLEM: *To recement section of liner at bottom of uncased hole.*

METHOD: *Run Cement Retainer through 8032' of Open Hole and set near bottom of liner and squeeze cement.*

RESULT: *Cement job 100% successful.*

• DETAILS •

Field: Coalinga Area
Depth of Well: 9375'
Depth Retainer Set: 9315'
Breakdown Pressure: 2000 #
Final Pressure: 1000 #
Number of Sax Put Away: 75
How Cement Discharged: Around Shoe on bottom of Liner



Showing application of Baker Cement Retainer in recementing liner. Note that Retainer was run through 8032' of Open Hole

THE BAKER CEMENT RETAINER has provided the solution to many Cementing, Well Repair and Well Completion problems confronting the modern operator . . . perhaps it will solve a particular problem confronting YOU. Complete details concerning its many practical field applications will be found in the Baker section of the Composite Catalog . . . also in Baker Broadcast No. 17-A, a comprehensive, 40-page illustrated treatise which will be sent to interested oil men upon request.

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A Case Study of an Actual Well Completion Problem Solved by Using the Baker Cement Retainer

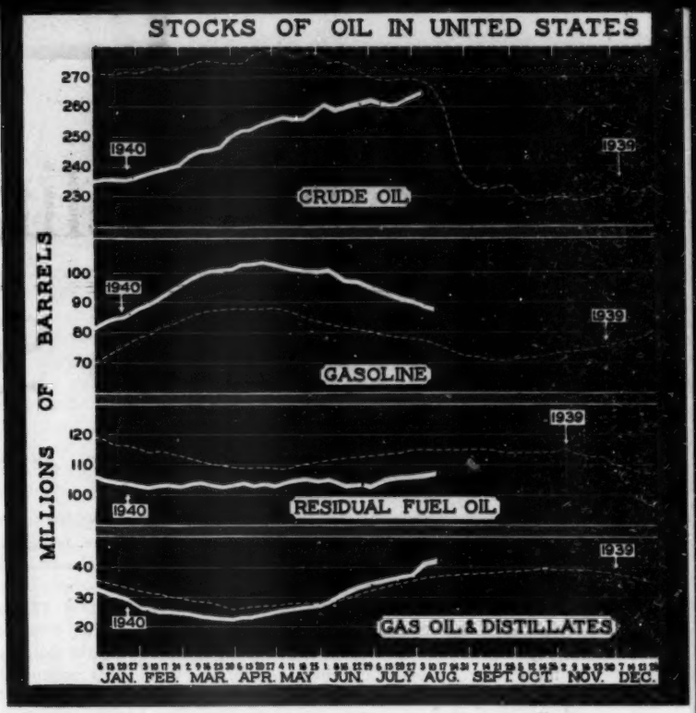
IMPORTANT CEMENT RETAINER APPLICATIONS INCLUDE:

Squeeze Jobs • Recementing • Cementing Behind Sections of Pipe • Reducing Gas/Oil Ratios • Series Cementing • Plugging off Bottom Fluids • Plugging Back to Upper Zones • Testing Upper Cased Formations • As a Heaving Plug • As a Bridge Plug at any Place in Casing or Liner • Open Hole Acidizing • Open Hole Squeeze Cementing

BAKER CEMENT RETAINER

Trends

Inland Shipments From Gulf Affect Interior Markets



CHANGES in the movement of crude oil and petroleum products as a result of the decline in the export movement at the Gulf Coast in recent months and the sharp reduction in coastwise tanker rates, are becoming of increasing importance in oil markets throughout the area east of the Rocky Mountains. The reduction in Gulf Coast-Atlantic seaboard tanker rates from 65 cents and higher per barrel last fall and early this year to the present rates around 20 cents is resulting in an increased movement of both crude oil and products. Refiners whose export outlets have been restricted practically to the vanishing point, have taken advantage of this situation and have increased their shipments to eastern points. Lower wholesale and consumer prices for gasoline and other refinery products in the eastern part of the United States have been one of the results of this heavy coastwise movement which for the week ending August 3 brought a nonseasonal development in which gasoline inventories on the East Coast increased. The coastwise movement now includes crude-oil shipments to eastern refineries which during the high-tanker-rate period obtained part of their crude from Illinois through pipe-line connections.

CRUDE PRODUCTION *3,492,081 bbl. daily average — down 2,136 bbl. One year ago 3,554,146 bbl.*

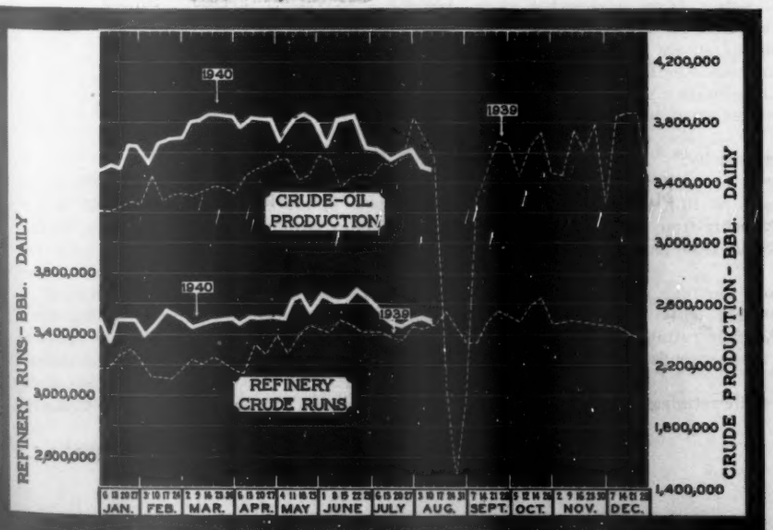
CRUDE STOCKS *264,297,000 bbl. as of August 3—up 1,718,000 bbl. One year ago 268,982,000 bbl.*

GASOLINE STOCKS *88,115,000 bbl. as of August 10 — down 1,377,000 bbl. One year ago 76,244,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *107,601,000 bbl. as of August 10 — up 682,000 bbl. One year ago 15,561,000 bbl.*

GAS OIL AND DISTILLATES *41,377,000 bbl. as of August 10 — up 929,000 bbl. One year ago 36,003,000 bbl.*

REFINERY RUNS *3,435,000 bbl. daily week ended August 10 — down 75,000 bbl. One year ago 3,460,000 bbl.*



The significance of this backing-up of products at the Gulf Coast does not stop with the enlarged coastwise movement. The shipments of crude and products from Gulf Coast terminals up the Mississippi River and its tributaries are increasing in number. In addition, tank-car shipments of refinery products north from coastal plants are expanding, bringing that area in direct competition with refining centers of the Mid-Continent and the Middle West. Rates on these shipments are more competitive than many have realized. For example, the rail rate on gasoline from the Houston area to Chicago is 43 cents per 100 lb., only slightly higher than the 40-cent Tulsa rate.

This shift in the transportation of products probably will continue as long as the export movement does not improve. The larger movement to inland points from the Gulf will tend to minimize the market significance of any declines in Illinois production.

The trend in national crude-oil inventories continues upward despite the fact that production is near the low point of the year. This trend has developed because refiners have reduced their operations. The gain in crude stocks has been general with California adding to its inventories at the rate of 55,000 bbl. daily for the 3 weeks ending August 3.

Except for the weakness in gasolines in several eastern states and an increase in purchases of furnace oils for the season which starts September 1, there were no important changes in refinery markets over the past week.

DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 10, 1940	Bur. Mines Aug. est. of demand	Aug. state allowables	Aug. 3, 1940
Arkansas	73,075	65,200	73,000	72,390
California	637,850	598,400	587,000	591,250
Eastern states	103,700	102,900	.....	104,200
Illinois	395,450	440,600	.....	408,545
Kansas	169,150	166,800	170,607	183,150
Louisiana	281,410	276,100	274,620	280,090
North Louisiana	*65,060*	.....	.....	*63,140*
Louisiana Gulf Coast	*216,350*	.....	.....	*216,950*
Michigan	54,143	57,100	52,000	54,746
Mississippi	11,033	10,300	.....	10,803
New Mexico	106,570	105,200	102,000	106,650
Oklahoma	391,425	402,600	390,000	413,850
Rocky Mountain states	92,290	106,100	.....	98,650
Texas	1,175,985	1,326,400	1,194,943	1,169,893
East Texas	*374,948*	.....	.....	*374,848*
West Texas	*192,398*	.....	.....	*182,598*
North Central Texas	*117,997*	.....	.....	*113,090*
Texas Panhandle	*63,396*	.....	.....	*66,000*
East Central Texas	*68,496*	.....	.....	*72,947*
Gulf Coast Texas	*279,600*	.....	.....	*283,050*
Southwest Texas	*79,150*	.....	.....	*77,450*
United States	3,492,081	3,657,700	.....	3,494,217

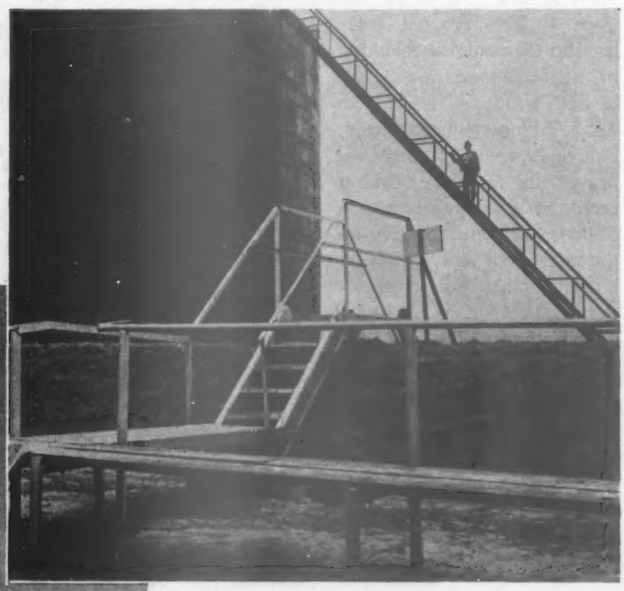
Illinois Decline Returns Crude Demand to Southwest States

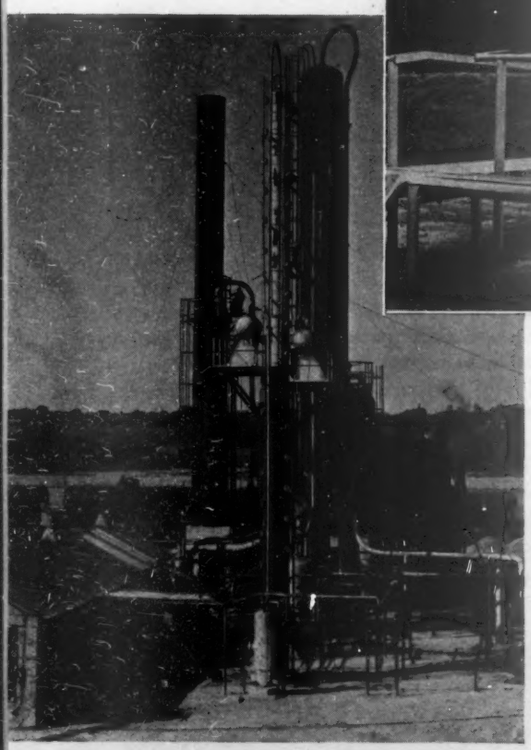
By H. STANLEY NORMAN

CHANGES of far-reaching significance to the oil industry are taking place almost daily in the available supply and distribution of Illinois petroleum. Repercussions of another decline in Illinois production for the sixth consecutive week to approximately 394,000 bbl. daily are being relayed to the extremes of the industry's finely tuned nerve system.

August gives indication of being the first month in more than 2 years that Illinois production will fall below the consumptive demand estimated by the Bureau of Mines, which, at 440,600 bbl. daily, is an all-time peak. The real significance in reversal of the Illinois trend, which has prevailed since 1938, but more emphatically through 1939 and the first half of this year, has to do with crude demand in the Mid-Continent and on the Gulf Coast. Movement of Illinois crude oil to eastern states has been reduced almost 50 per cent since the peak was reached in May and June. The southern leg of one large trunk pipe-line system, relegated to standby service for a part of May and June, is again moving crude regularly from the Southwest. There is an immediate firm demand for approximately 60,000 bbl. of oil daily in excess of Illinois' current producing ability. Part of the demand has reverted in the past 4 weeks to the Gulf Coast and the Mid-Continent. As Illinois production gradually declines Kansas, Oklahoma, Texas, New Mexico, and the Gulf Coast of Texas and Louisiana appear certain to regain, in direct ratio, the crude market relinquished over the past 2 years. The territory of immediate demand for Illinois crude outside that state includes Indiana, Ohio, Kentucky, West Virginia, Michigan, Minnesota and Canada. The sphere of influence for Illinois crude extends to the Atlantic seaboard, including eastern Pennsylvania, New Jersey, and the State of New York, in addition to southwestern producing states.

Right: A 55,000-bbl crude storage tank on the banks of the Ohio River at Mount Vernon, Ind. Below: Pana Refining Co.'s plant at Pana, Ill., which has crude capacity of 4,000 bbl. daily and cracking capacity of 1,800 bbl. daily





Refineries in Illinois and four neighboring states to the east have combined crude-oil capacity of 706,850 bbl. daily as shown in Table 3. These states, Illinois, Indiana, Kentucky, and Ohio, produced at the daily average rate of 463,778 bbl. in the first half of this year, leaving a crude deficiency of only 243,072 bbl. daily based on the reported refining capacity.

Refining capacity of the four states which are the principal users of Illinois crude has grown only slightly, advancing from a combined total of 461,245 bbl. daily in 1936 to 513,350 bbl. at the present time.

Production from the four states in 1936 averaged about 39,000 bbl. daily, leaving more than 422,000 bbl. of the daily refining capacity dependent on exterior crude supplies, chiefly from the Southwest.

Consequently, while refining capacity was growing 11.2 per cent in 5 years the production increased nearly 1,100 per cent, or from a combined total of 38,862 bbl. daily in 1936 to 463,778 bbl. daily in the first half of this year. There was a theoretical demand for 422,245 bbl. daily of outside oil in 1936 compared to the indicated deficiency of 243,072 bbl. daily in June this year.

The extent to which distribution of Illinois crude has been reduced since production started declining early in July is indicated most strikingly by a comparison of shipments to the eastern states. During May and part of June pipe-line shipments to the east ranged between 50,000 and 60,000 bbl. daily. Approximately 27,000 bbl. daily moved to eastern states last month. Western New York received approximately 12,000 bbl. daily of Illinois crude last month; Pennsylvania, 10,000 bbl.; New Jersey, 4,000 bbl., and West Virginia, 1,000 bbl.

Bureau of Mines figures for May, the latest government data available, show Illinois crude moving to eastern states by the following amounts: New Jersey, 13,615 bbl. daily; New York, 18,550 bbl.; Pennsylvania, 10,130 bbl., and West Virginia, 3,000 bbl.

Refineries in Illinois processed about 125,000 bbl. daily in July; 110,000 bbl. daily moved to Ohio; 50,000 bbl. to Indiana; 15,000 bbl. to Kentucky; 10,000 bbl. to Michigan, and 65,000 bbl. daily in export to Canada.

Production Less Than B. of M. Estimates

Based on development of the past 6 weeks it is doubtful if Illinois' production will average more than 395,000 bbl. daily in August, which is 40,600 bbl. less than the demand estimated for this month by the Bureau of Mines. If the projections are sustained it will be the first time in 2 years that production from Illinois has failed to exceed the Bureau of Mines demand calculations as shown in the following table:

Month, 1940—	Daily av. estimated B. of M. demand	Daily av. production	Production excess
August	440,600	400,000	*40,600
July	402,300	458,400	56,100
June	395,600	487,700	92,100
May	392,900	455,000	62,100
April	380,000	434,600	54,600
March	329,700	433,900	104,200
February	325,500	412,000	86,500
January	314,800	367,500	52,700
1939—			
August	201,900	308,700	106,800
July	187,400	275,800	88,400
June	174,300	236,000	61,700
May	158,700	215,900	56,200
April	149,300	176,800	27,500
March	125,500	164,900	39,400
February	102,500	154,000	51,500
January	86,100	138,100	52,000

*Estimated deficiency.

More than declining production is behind the curtailment of movement of Illinois oil to the eastern states although this is admittedly an important factor. However, tanker rates have declined in the past 90 days to a point that makes it again a profitable transportation operation to move Gulf Coast crude to Atlantic seaboard refineries to the full satisfaction of their requirements. The economic water-transportation advantage of Gulf Coast oils is likely to become even more pronounced under the Maritime Commis-

sion's policy of permitting American flag tankers to trade only with nations in the Western Hemisphere. Several boats have been forced from transoceanic services into coastwise trade. Tankers can be obtained currently in the range of 20 to 22 cents per barrel for coastwise crude cargoes. The average cost of moving Illinois crude to the Atlantic seaboard and other eastern refining centers is 40 cents per barrel.

Last winter when tankers were scarce and owners asked from 60 to 65 cents per barrel for the coastwise voyage there was a saving of 20 to 25 cents on each barrel of Illinois crude moved east via established pipe-line systems. Almost the reverse economy now rests in favor of Gulf Coast crude delivered by water.

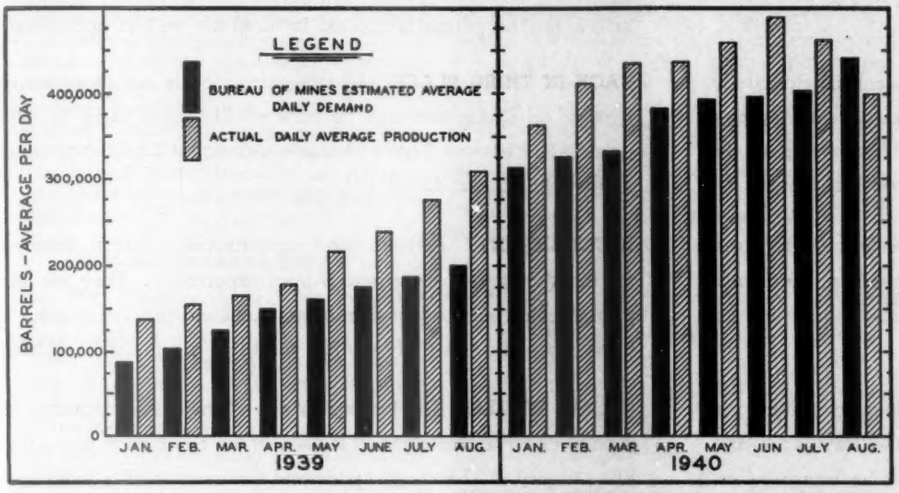
There is still another issue in the desirability of Illinois crude. Companies with extensive producing properties in Illinois may find the transportation-cost consideration insufficient to balance the cost of purchased crude on the Gulf Coast against indigenous supplies in the Middle West. Then, too, there is the question of refinery balance which may continue indefinitely the eastern states demand for the type of oil available in Illinois. Companies with extensive operations and unrestricted selectivity of crudes have discontinued eastern movement of Illinois oil because of reduced supplies, a momentarily insatiable market within the territory and the higher cost of transportation as compared to movement by water from the Gulf Coast.

Dip of the production curve has been sharp since Illinois reached its peak of more than 518,000 bbl. daily the last week in June. The curve is likely to flatten out over the next few weeks although important new discoveries are necessary to arrest or reverse its general downward trend. For the remainder of August it appears certain that 40,000 bbl. daily or more crude oil will be required from southwestern producing states to offset the deficiency of Illinois.

Development of Illinois production has effected important changes in the refining and marketing phases of the industry in the Middle West. The changes in the refinery setup are most pronounced in Illinois where skimming plants gravitated to nearby sources of inexpensive crude, largely because transportation facilities could not be, or were not developed as promptly as production. Crude available in Illinois at less than the posted price is now limited to a few isolated spots and the volume is insignificant. Skimming capacity of refineries in Illinois has increased nearly 108 per cent in the past 5 years and nearly 55 per cent since the early part of 1939. The extent to which topping-plant operators were attracted to Illinois and adjacent territory may be observed from the list of refineries shown in Table 1.

Topping Plants Unimportant Factor

Despite the number of small topping plants in Illinois they are a relatively unimportant factor in the distribution of the state's production. Small refiners currently receive less than 18,000 bbl. of oil daily, or about 5 per cent. As production declines and the competition among large purchasers grows, the crude supplies available to small refiners will shrink accordingly, if history of the industry can be accepted as a guidepost in this case. The rapid spread of track-site marketing outlets in the Middle West is largely due to availability of motor fuel from the Illinois refining district.



Actual production dropping below estimated demand for first time in recent years

Refineries in the eastern states which are largely dependent on extraneous crude supplies and, therefore, actual or potential users of Illinois crude, are shown in Table 2. Only a few of the eastern refineries have received Illinois crude even at the peak of production in that state. The 27,000 bbl. daily currently moving to eastern refineries and the peak of 50,000 to 60,000 bbl. daily in parts of May and June largely represent supplies drawn from the Gulf Coast prior to the latter part of 1939.

TABLE 1—REFINERIES WHOLLY OR PARTIALLY SUPPLIED BY ILLINOIS CRUDE

Company and location—	Crude-oil capacity	Cracking capacity
Illinois		
Advance Ref. Co., Inc., Centralia	2,000	.....
Allied Oil Corp. of Ill., St. Elmo	4,000	600
Basin Oil Ref. Co., Centralia	2,000	.....
Calumet Ref. Co., Burnham (Chicago)	1,200	.....
Cascade Ref. Co., Selamville	3,000	.....
Centralia Ref. Co., Centralia	2,000	.....
Central Ill. O. & R. Co., Centralia	1,500	.....
Cross, Henry H., Co., Colmar	1,000	.....
Cross, Henry H., Co., Dupo	1,000	.....
Egyptian Prod. & Ref. Co., Centralia	1,800	.....
Fairfield Ref. Corp., Fairfield	2,000	.....
Globe Oil & Ref. Co., Lemont	20,000	4,000
Goodson Oil Co., Inc., Sandoval	600	.....
H. S. & B. Ref. Co., Mill Shoals	1,200	.....
Indian Ref. Co., Lawrenceville	23,000	11,000
Lake Ref. Co., Salem	2,000	.....
Mid-States Ref. Co., Joliet	500	.....
Ohio Oil Co., Robinson	12,500	6,500
Red River Ref. Co., Burnham	1,000	.....
Shell Oil Co., Inc., Wood River	92,000	33,000
Socony-Vacuum Oil Co., Inc., East St. Louis	15,000	5,500
Standard Oil Co. (Ind.), Wood River	21,700	6,410
Taxman Oil Co., Milan	1,100	.....
Texas Co., Lockport	36,000	25,000
Transport O. & R. Co., Dupo	600	.....
Worth Ref. Co., Blue Island	1,500	.....
Total Illinois	256,200	94,210
Indiana		
Cities Service Oil Co., East Chicago	30,000	18,000
Evansville Ref. Co., Evansville	2,000	.....
Indiana Farm Bureau Coop. Association, Mount Vernon	2,500	.....
Johnson Oil Supply Co., Gary	2,000	.....
Shell Oil Co., Inc., East Chicago	*30,000	21,000
Sinclair Ref. Co., East Chicago	45,000	30,000
Socony-Vacuum, East Chicago	12,000	3,900
Standard of Indiana, Whiting	119,000	47,700
Troy Ref. Co., Troy	250	.....
Total Indiana	242,750	120,600
Kentucky		
Aetna Oil Service, Inc., Louisville	8,500	3,000
Ashland O. & R. Co., Catlettsburg	9,000	4,000
Greenville Ref. Co., Inc., Greenville	100	.....
Latonia Ref. Corp., Latonia	11,000	4,600
Louisville Ref. Co., Louisville	7,000	3,500
South Ky. P. L. Co., Somerset	400	.....
Stoll Oil Ref. Co., Louisville	2,000	.....
Texas Co., Pryse	3,000	2,500
Tri-State Refineries, Inc., Spottsville	1,000	.....
Total Kentucky	43,000	17,600
Ohio		
Canfield Oil Co., Cleveland	1,500	.....
Canton Ref. Co., Canton	6,000	2,000
Gulf Ref. Co., Hoover	19,000	8,379
Gulf Ref. Co., Toledo	18,000	7,000
National Ref. Co., Findlay	3,200	1,300
National Ref. Co., Marietta	700	.....
Panda O. & R. Co., Toledo	3,500	.....
Pure Oil Co., Heath	16,000	12,500
Pure Oil Co., Toledo	22,500	17,500
Standard Oil Co. (Ohio), Cleveland	23,000	13,000
Standard of Ohio, Lima	8,000	5,000
Standard of Ohio, Toledo	18,500	9,800
Sun Oil Co., Toledo	25,000	13,000
Total Ohio	164,900	99,479
Minnesota		
Northwestern Ref. Co., St. Paul Park	2,500	.....
Purzone Ref., Inc., Minneapolis	4,500	.....
Total Minnesota	7,000	.....

TABLE 2—EASTERN AND SEABOARD REFINERIES WITHIN THE SPHERE OF INFLUENCE OF ILLINOIS CRUDE OIL

Company and location—	Crude-oil capacity	Cracking capacity
New York		
Gulf Oil Corp., Gulfport	13,000	.....
Sinclair Ref. Co., Wellsville	10,000	2,500
Socony-Vacuum, Buffalo	14,500	7,200
Socony-Vacuum, Brooklyn	19,000	5,200
Socony-Vacuum, Olean	6,500	.....
Hambleton Terminal Corp., Tonawanda	5,000	.....
Frontier Fuel Oil Corp., Towanda	7,500	.....
Total New York	75,500	14,900
Pennsylvania		
Atlantic Ref. Co., Philadelphia	83,000	22,000
Gulf Oil Corp., Girard Point	30,000	12,000
Sinclair Ref. Co., Marcus Hook	45,000	12,000
Sun Oil Co., Marcus Hook	82,000	42,500
Total Pennsylvania	240,000	88,500
New Jersey		
Cities Service Oil Co., Linden	12,000	.....
Cities Service, Petty Island	20,000	4,500
Socony-Vacuum, Paulsboro	25,200	12,000
Standard of New Jersey, Bayway	124,000	30,500
Tide Water Asso. Oil Co., Bayonne	55,000	8,300
Total New Jersey	236,200	55,300
Canada		
British American Oil Co., Ltd., Calgary	5,000	2,500
British American, Toronto	6,000	3,000
British American, Montreal	12,000	7,500
Imperial Oil, Ltd., Calgary	6,000	4,400
Imperial Oil, Ltd., Ioco	16,000	3,400
Imperial Oil, Ltd., Sarnia	26,000	15,600
Imperial Oil, Ltd., Montreal	25,000	11,500
McCall-Frontenac, Toronto	11,000	7,000
Canadian Oil Companies, Ltd., Petrolia	3,000	1,300
Total Canada	110,000	56,200

TABLE 3—DAILY AVERAGE CRUDE-OIL PRODUCTION AND REFINING BALANCE

	Illinois		Indiana		Kentucky		Ohio	
	Production	Refinery crude capacity	Production	Refinery crude capacity	Production	Refinery crude capacity	Production	Refinery crude capacity
1940*	431,740	256,200	9,478	242,750	14,170	43,000	8,390	164,900
1939	180,700	165,500	2,171	224,150	15,046	26,350	8,707	130,109
1938	43,134	142,400	2,409	216,250	14,613	25,600	9,039	129,100
1937	13,028	137,300	2,193	205,500	15,193	25,850	9,751	123,650
1936	11,681	123,200	2,088	195,350	14,549	28,950	10,544	113,745

*Daily average first 6 months for all years.

SPARKS . . . FROM THE NEWS

MAIN OUTLET: European war developments have brought reductions in this country's petroleum export outlets but they have been far more important to South American operators who look to that area for most of their customers.

HOPE: It now appears that when government officials fully understand the petroleum-product specifications which they promulgated, the licensing regulations will not restrict exports as much as indicated when they were announced last month.

FUTURE: Because practically all middle western refiners are now obtaining part or all of their crude supplies from the Illinois basin, a substantial decline in that area's crude output will be of major significance to all interior markets.

TALKING ENDS: They have been talking about a natural-gas line from the Southwest which would serve the New York and Philadelphia markets—largest in this country—for many years. Last week, a new company asked the F.P.C.'s permission to build the line, connecting to the large supplies of the Gulf Coast area.

FIESTA: Kansans, busy developing new oil pools, will take time out late in September to observe the twenty-fifth anniversary of Eldorado, daddy of all Kansas fields.

MIDDLE WEST: A flowing well points to an important field in Gladwin County, Michigan, while two wildcat tests showing water have dampened the play in Northeast Ohio.

ABOVE AND BELOW: Every operator faces the possibility of getting water where he hoped to get oil. Last week many Louisiana operators in addition had to contend with several feet of flood water.

CLOSING THE DOOR AFTER: With production within its borders declining rapidly the Centralia City Council is considering an ordinance which would give the city sweeping powers from the time a drilling permit is applied for until the well is abandoned.

BACK IN THIRD PLACE: Illinois production is not dropping as rapidly as Oklahoma cuts its runs so Illinois is back in third place. The Sooner State's production dropped 22,435 bbl. daily last week; Illinois, 13,095 bbl.

INCONSISTENT? Refiners who manufacture aviation gasoline ask how long they must refrain from exporting it. They see airplanes being shipped in increasing numbers and the country is better equipped to supply the fuel than it is to supply the planes.

OIL ON WATER: The increasing use of the Mississippi and its tributaries for transporting oil is seen in the completion of a 4,000-bbl. refinery at Vicksburg, Miss., and the erection of a plant near St. Louis, Mo. The practicability of water shipments is proved by the unloading of New Orleans gasoline in Minneapolis, Minn., as a routine practice.

NEW LEASE: After producing 740,000 bbl. of oil in 9½ years, the first townlot producer at Oklahoma City declined in yield to 50 bbl. of fluid daily, has been reworked, given a new lease on life and now is pumping steadily at 165 bbl. daily.

CRACK-POT: No possible useful service could be expected by the enactment of a Michigan congressman's bill making mandatory the use of alcohol-gasoline. Both motorists and farmers would suffer, as was pointed out in a coast-to-coast broadcast last week. There are no sound arguments to present in support of this crack-pot plan.

NEW DEEP POOL OPENER . . .

Walter Ziegler, of Harry Moss and others, and Claude Johnson and Jimmy Lynch, of Delta Drilling Co., watching oil flow from the Harry Moss and others' No. 1 Joe Venters, S. Wright Survey, Camp County, East Texas. The well is producing from perforations at 8,000-42 ft. and promises to open an extensive drilling program in the Ferndale area of Camp County

Two Recent Discoveries May Signal Michigan's Comeback

By W. V. HOWARD

DISCOVERY of two pools in northeastern Michigan during the past month came at a most opportune time for the state's oil industry. With refinery capacity of 90,000 bbl. operating at approximately 90 per cent of capacity, it was necessary to import some 25,000 bbl. of crude into the state daily.

Michigan's production for the first 7 months of the year is at approximately the same level as last year, but there has been a steady decline from an average of 66,000 bbl. in January to 54,000 bbl. at the present time. The greater part of Michigan's production comes from four main areas: the Allegan-Van Buren district in the southwest corner of the state, the Walker field near Grand Rapids, the Mount Pleasant district in the center of the state and the Freeman-Redding or Temple field in Clare County.

Michigan Production Record

Since 1924, Michigan has produced 191,869,000 bbl. of oil, of which over half, or 110,663,000 bbl. has been produced during the 43 months since January 1, 1937. This is at the average rate of 2,573,000 bbl. per month, or approximately 80,000 bbl. per day, which is almost exactly the present daily throughput of the state's refineries.

Until recently the increasing output of oil was made possible by an increasing number of important discoveries. As a rule, these pools were drilled up rapidly and stripped of their oil at the maximum possible rate. One of these pools and one which may be considered typical is the Buckeye field in Gladwin County. This field was discovered late in 1936 and produced 10,475 bbl. in that year. In 1937 it produced 6,428,299 bbl., and in 1938 production was 7,346,607 bbl. The rapid decline in production of this field is shown in Table 1.

Proration and Well Spacing

During 1939 proration measures were introduced and the effect of these measures has been almost 100 per cent beneficial to the operators involved. Briefly, the measures adopted provide for a maximum allowable production based upon acreage. A field like Freeman, which is on 10-acre spacing, may be given a top allowable of 100 bbl., while Redding, which is on 20-acre spacing, will have a 200-bbl. maximum. Wells drilled on smaller acreage than 10 acres have their allowables reduced proportionately.

One effect of this rule is to slow up development. Obviously, if wells are permitted to produce to capacity, no operator can afford to delay drilling and lose his oil to his neighbors. On the other hand, if production is limited, offsets may be delayed for some time without appreciable loss by drainage. At the same time, strict enforcement of the spacing rule prevents overdriiling.

The effect of slow development and proration can be seen by noting the production record of several of the more important fields and comparing it with that of Buckeye and of Van Buren County, which has been little affected by proration. (See Table 1.)

The Michigan basin contains no pronounced geological features. It was simply a large area of sedimentation during the Paleozoic whose surface was never very far from sea level. As the basin filled, it slowly sank and the present form is that of a nested set of elliptical basin-shaped strata. During this subsidence, the formations wrinkled with the development of axes of warping running generally in a northwest-southeast direction. Some crossfolding also took place with the result that on these axes there are a series of local highs, many of which are productive.

The Geological Survey Division of the Department of Conservation has issued a series of maps showing the location of these trends as disclosed by drilling and the few outcrops found in the state. The first of these maps prepared by Dr. R. A. Smith shows mainly a few minor wrinkles around the margin, as his map antedated nearly all of the drilling. R. B. Newcombe greatly extended this work and in his map laid the foundations for most of the development that has taken place in the state. The third trend map, from which the trends shown in Fig. 1 are taken, was prepared by E. A. Newman in December 1937.

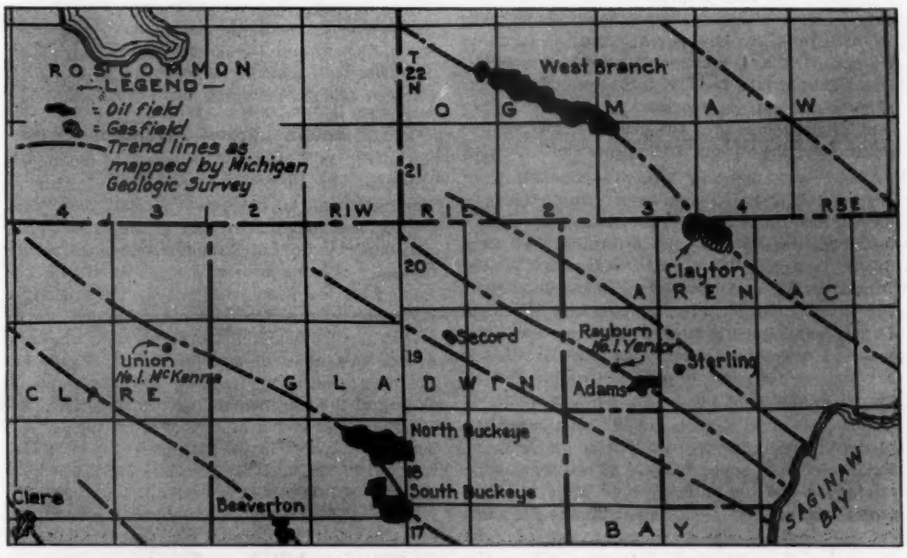


Fig. 1—Map of a part of northeastern Michigan showing relation between discoveries and structural trends

Three Devonian limestones provide the bulk of Michigan's oil. These are the Traverse, Dundee and Monroe. Of these, the main production from the Traverse is found in the southeastern part of the state and includes the Van Buren, Allegan and Walker production. The Traverse shows oil over most of the state, but outside of this area is generally a "teaser."

Dundee-Monroe production is much steadier than Traverse production. The Mount Pleasant area, including Wise and the Freeman-Temple pool, are producing from Dundee formation. After production reaches the settled stage, it is long-lived. The distinction between Monroe and Dundee is rather hazy, as there is no sharp division between them. Generally speaking, the dolomitic reservoirs are considered to be of Monroe age. The Dundee and Monroe production is now concentrated in the central and northeastern fields.

Although the structural trends traverse the full length of the southern peninsula, the oil development has been mainly along a strip some 50 miles wide crossing the structural trends nearly at right angles. Bay City and Kalamazoo lie on the southeast side of this belt and Muskegon on the northwest. Outside of this belt, the Devonian limestones have not been found productive.

1940 Discoveries

The two discoveries made in 1940 are the Rayburn's No. 1 Yenior, NE SE NE Section 22-19-3e, in Arenac County, and Sun's No. 1 J. F. McKenna, S½ SW SW Section 15-19-3w, in Gladwin County. The former of these tests is on a trend running through the Adams pool, which is about 1 mile to the southeast. This trend is paralleled by the Clayton-West Branch trend 10 miles to the northeast. The Sun well is also on a mapped trend which traverses the north end of the Buckeye field, about 12 miles to the southeast. Both discoveries will go far toward diverting operators from the Allegan-Van Buren area, which has had the heaviest play for the past 2 years and may pave the way for a continuation of Michigan's record of always being on the verge of an oil shortage but of developing production at the last minute to keep the state on the active list.

TABLE 1—AVERAGE DAILY PRODUCTION OF TYPICAL MICHIGAN FIELDS

	Buckeye	Walker	Freeman-Redding	Allegan Co.	Van Buren Co.	Wise
January, 1938	26,628	....	....	3,596		....
July, 1938	19,472	....	123	4,184		....
January, 1939	9,796	89	8,360	4,274	14,574	194
June, 1939	6,922	6,732	13,345	9,287	15,578	731
January, 1940	3,697	18,455	14,817	8,343	6,320	1,626
June, 1940	3,012	13,210	11,472	7,636	4,859	3,206

War Hits Oil Operations In South America

By J. P. O'DONNELL

NEW YORK, Aug. 13.—While most observers of the international petroleum picture have focused their attention on the more spectacular phases of the war, particularly Italy's activities in Africa which, they believe, are designed ultimately to sever Great Britain from its near eastern petroleum resources, others are expressing grave concern over developments closer to home. These are intent on South America where important production is jeopardized as a result of the loss of essential European markets. Since virtually all South American oil-producing countries are essentially exporting nations from the petroleum standpoint because domestic consumption is comparatively negligible, the European market is of vital concern to them. Just how important this market is to these countries is apparent from the fact that European nations which are now blockaded by Great Britain take from 30 to 60 per cent of their exports and exports represent as high as 93 per cent of the market for the crude oil and refined products of the various Latin-American countries.

The two Netherland West Indian islands of Aruba and Curacao represent what might be termed the "bottle neck" of the Latin-American oil industry. Here are the great refineries of Lago Oil & Transport Co., Ltd., a subsidiary of the Standard Oil Co. of New Jersey, and Curacaosche Petroleum Industrie Mij., a subsidiary of Royal Dutch-Shell. Together they have a combined crude-oil capacity of more than 500,000 bbl. per day and are sufficient to process two-thirds of all the oil produced in the Latin-American area.

Venezuela and Colombia are the most important of the oil-producing countries in South America, the former with approximately 80 per cent of the production and the latter with 10 per cent. Venezuela particularly is dependent on the Standard and Shell refineries at Aruba and Curacao for the processing of its crude oil. Due principally to the war, statistics on the exportation of crude oil from these countries to the Netherland West Indies last year are not available, so that it is necessary to go back to 1938 for latest available data. In that year the Netherland West Indies took 156,464,000 bbl. of Venezuela's total production of 190,231,780 bbl., or 82 per cent, and 9,110,000 bbl. of Colombia's total production of 21,660,720 bbl., or 42 per cent. This shows the extent to which these countries are dependent on the two island refineries.

Preliminary estimates are that Great Britain's blockade of Europe has cost these refineries fully 30 per cent of their normal market. During 1938 the last "normal" year before the war, exports of refined products from the Netherland West Indies were shipped to more than 50 different countries or dependencies, 18 of which are in Europe. Of these, Belgium, Denmark, Finland, France, Germany, Greece, the Baltic states, Italy, the Netherlands, Norway and Sweden are lost entirely. These countries took about 30 per cent of the Aruba and Curacao exports, including some crude oil.

Britain Largest Purchaser

The United Kingdom, of course, is the largest purchaser of the Netherland West Indian refined oil and in the last "normal" year took slightly less than 25 per cent of the refined-products exports. Loss of Rumanian supplies and the necessity of bringing near eastern oil all the way around Africa since the virtual suspension of shipping in the Mediterranean, tended to increase the United Kingdom's demands on Latin American sources of supplies but this gain has fallen far short of offsetting the losses due to closing of the continental European markets.

Principal products of export from the Netherland West Indies in the last prewar year were: fuel oil, 97,365,000 bbl.; gasoline, 31,053,000 bbl.; gas oil, 9,579,000 bbl.; diesel oil, 9,838,000 bbl.; crude oil, 7,576,000 bbl., and lubricating oil, 2,307,000 bbl. It is significant, too, that virtually all exports of asphalt in that year were made to Egypt, a market that is now difficult to reach.

Additional evidence of the importance of the lost continental European market is shown in a study of the principal importers of these products The United Kingdom was the principal importer of all except lubricating oil in which the Netherlands led by a large margin and Germany was second. Outside of Great Britain, the Netherlands and Germany were also the main importers of all other products except fuel oil in which Argentina led, though Germany, Italy, and the Netherlands were close behind.

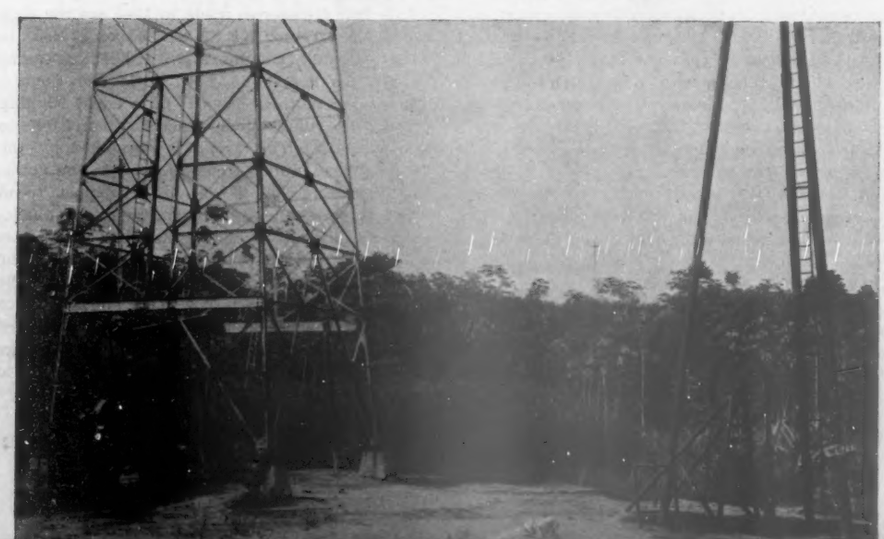
The initial war reaction on the Latin-American oil industry was similar to that in this country. In anticipation of increased demand, production was stepped up with the result that the steadily contracting European market was far oversupplied. The consequence is that curtailment has become necessary and Standard Oil Co. of New Jersey affiliates in Venezuela have cut back production some 65,000 bbl. per day with every indication that other companies will do or are doing the same. Production is being gradually reduced in such a manner as not to unduly disturb the national economy. In this connection, the statement of the Minister of Fomento is significant: "Although production is being curtailed and it has been found necessary to reduce payrolls, reduction in payrolls is in no way proportionate to the drop in production." Consideration of national economy in this respect is extremely important in Venezuela since revenues from oil operations constitute the principal source of the national income. The country, however, has taken this fact into consideration in adopting a budget for the coming year. This budget shows a reduction in anticipated income of close to 17,000,000 bolivares due in a large measure to reduction in the estimated income from the Department of Fomento (mainly oil).

Exports of Venezuelan oil, mostly to Aruba and Curacao, in 1939 are estimated at 195,000,000 bbl. or 93 per cent of its total production of 210,000,000 bbl. Data on exports for the last third of the year are estimated since they were not issued following the declaration of war. In the middle 4 months of last year they totaled 67,769,000 bbl. and in the first 4 months of this year were down to 53,080,000 bbl., a drop of 27 per cent from the immediately prewar level. Production in the first half of this year was estimated as approximately the same as in the corresponding 1939 period. It is anticipated that for the current year as a whole daily average production will show a decline of 47,000 bbl., about 8.5 per cent, a comparatively small amount in view of the market loss and ample evidence that the companies operating in Venezuela are striving to maintain operations and protect the national income.

A factor that may cushion the effect of the loss of European markets to the Latin-American area is the reduction in the United States' import tax on certain oil products. This will enable these countries to dispose of additional quantities of products, principally fuel oil, that would have added to the distress material and further curtail Venezuela's national income.

Indicated effects of the war on the markets of

View showing backcrank installation in North Infantas field, Colombia



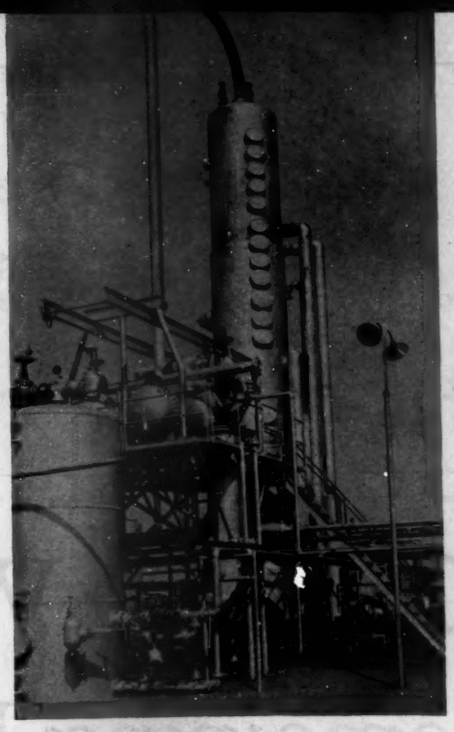
other Latin-American countries are shown below:

Colombia.—With only one large refinery, the Tropical Oil Co.'s 14,500-bbl. plant at Barranca Bermeja, the bulk of Colombia's crude-oil production is exported as such. Its crude-oil exports in the first quarter of this year were 5,638,000 bbl. against 5,525,000 bbl. in the corresponding period of last year. A part of these exports go to the Netherland West Indies but out of total exports of 19,013,000 bbl. last year, 2,492,000 bbl. went to France, 852,000 bbl. to Italy, and 53,000 bbl. each to Norway and Czechoslovakia. Thus now-closed European countries took better than 17 per cent of its exports. The 1939 figures do not include shipments from the port of Covenas which were inaugurated October 29.

Ecuador.—France was the major purchaser of Ecuadorian crude oil last year, taking 520,000 bbl. of the country's total exports of 1,725,000 bbl. However, the loss of this one customer deprived Ecuador of 30 per cent of its market.

Peru.—Peruvian exports were drastically curtailed in the last half of 1939. In the first half of the year they totaled 6,493,000 bbl., an average of 1,082,000 bbl. per month, but in the last half the total was down to 4,768,000 bbl., an average of 795,000 bbl. per month. Exports from Peru in 1938 were 13,140,000 bbl. and 30 per cent of this total went to continental European countries. Crude oil is Peru's principal petroleum export and a quarter of it went to France. Germany was the principal buyer of Peruvian fuel oil, kerosene, and gas oil.

Argentina.—The United Kingdom was Argentina's principal customer before the war but of this country's total exports of 542,000 bbl. in 1938, 225,000 bbl. went to countries now blockaded. France was Argentina's second best prewar customer, taking 150,000 bbl. of fuel oil in 1938. Loss of Argentina markets will react on Peru for Argentina was a major buyer of Peruvian crude oil.



Distillation unit at central plant of International Petroleum Co., Negritos, Peru

In 1938 it took 3,262,000 bbl. of Peru's total production of 15,838,000 bbl. Argentina, however, imports about 40 per cent of its internal petroleum requirements.

Trinidad and Tobago.—The principal "normal" markets for liquid petroleum exports from Trinidad and Tobago were countries not directly affected by the blockade of Europe. However, European countries now closed to trans-Atlantic traffic took 9,182 metric tons of asphalt exports out of a total of 53,084 tons, a substantial percentage of the total.

Export Licensing Confusing Despite Interpretations

DISCRIMINATORY application of petroleum export-licensing authority and regulation of tanker chartering leave this particular phase of the defense program confusing to the industry. The confusion exists despite an interpretation of the aviation-gasoline export-license regulation which has been sent to collectors of customs at all ports by the State Department. The appearance of discriminatory application of regulations arises largely from permission granted by the Maritime Commission for the charter of two tankers by Vsesoyuznoe Obedinenie Soyuznefteexport, Soviet tanker trust for movement of California gasoline to Russia.

In denying applications to charter American tankers to Japan the Maritime Commission expressed a policy of refusing approval on all such transactions that would take the boats away from Western Hemisphere countries. Approval of the voyages to Russia appears to be at least a modification of the previously announced policy and poses the question as to whether other exceptions may not be made in the future.

Two American tankers, the Vacuum and the China Arrow, have been given permission to deliver California gasoline to either Vladivostok or Nagaevo, U.S.S.R. Loading is scheduled at a California port on August 26 and September 6, respectively, for the two boats.

Authorization of the charters to carry gasoline to Soviet Russia almost coincidentally with reports of Russia shipping large quantities of oil to Germany gave rise to the question in this country as to whether or not such chartering will be continued. The belief is general that one of the principal reasons for imposing restrictions on American petroleum exports was to prevent their use by aggressor nations.

A special cable, appearing in the New York Times of August 7, stated that Russia was executing the German-Soviet trade agreement by shipping oil from Riga to unnamed Baltic ports of Germany. According to this report four tankers, ranging from 9,000 to 15,000-ton vessels, had been chartered by Germany for 4 months. They are reported to be making one trip weekly, thus providing Germany with approximately 150,000 tons (about 1,000,000 bbl.) of oil per month.

While it is obviously unlikely that shipments of United States gasoline to a Siberian port would ultimately reach Germany, it is equally obvious that such shipments fill a demand which might otherwise come out of the exports from the U.S.S.R. to the Reich. Since one reason unofficially cited for refusal of the commission to permit shipment of United States gasoline to Spain was the belief that it was being transshipped to Germany, the question arises as to whether or not the same effect is being achieved by selling to Russia. In at least one respect, the Maritime Commission's policy becomes less discriminatory. The British Navy is in position to control shipments to Spain but its authority over the Pacific can be challenged much more successfully without extreme risk. Consequently, American boats given permission to cross the Pacific are in no immediate danger of confiscation and, therefore, there is relatively little possibility of an incident.

Furthermore, the United States has no particular objection to seeing Soviet Russia in a strong position along its Siberian coastline as a potential check on Japan. A well-equipped and provisioned Russia at the back door of Japan will have the psychological effect of tempering Japanese ambitions for the Netherland East Indies and Philippines.

Another barrier to United States petroleum exports is looming in Canada where plans are under discussion to increase indigenous production to the maximum. Under the reported plan, which is designed to conserve foreign exchange. the Turner Valley field would be exploited to the maximum. Domestically produced gasoline would supplant imported motor fuel to the fullest possible extent. Meanwhile, interpretation of the petroleum export-license regulations issued by the Department of State serves to clarify some of the confusing provisions. The notice mailed to all collectors of customs clarifies the application by stating that it applies only to petroleum products which can be used in making appreciable quantities of aviation fuel. While the explanation does not actually narrow the definition it permits exports without license of some gasolines which have been detained at ports through misunderstandings of collectors.

Highly Cracked Nonaviation Fuel

Of greatest importance is the statement that licenses are not required for highly cracked gasolines which are not suitable for aviation fuel. whereas the regulation had been interpreted by many port officials as applying to most cracked motor fuels. The explanatory letter to customs collectors reads:

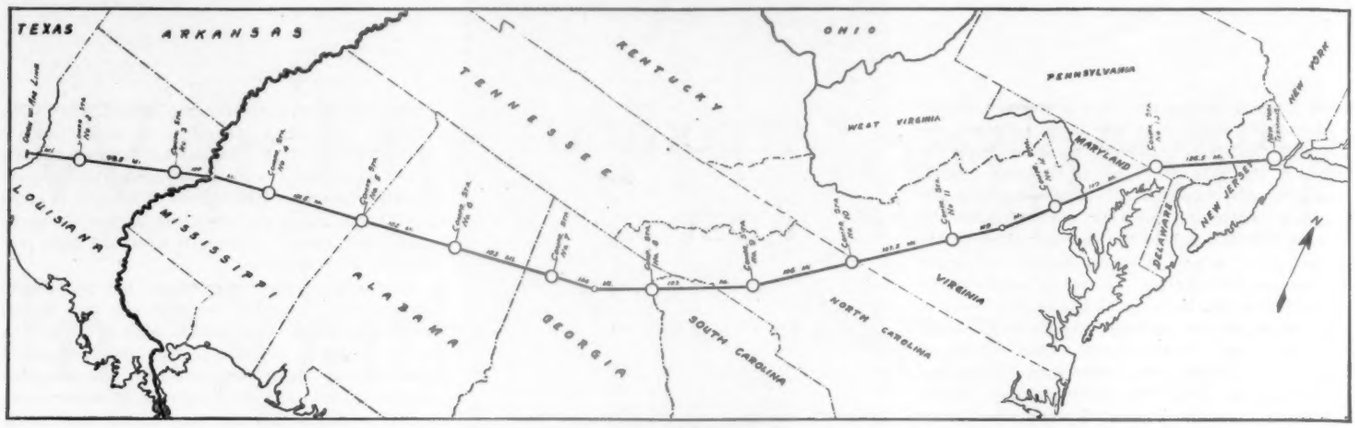
"Your particular attention is invited to the provision of the above-mentioned regulations which reads as follows:

"A. *Petroleum products.*—(a) Aviation motor fuel, i.e., high-octane gasoline, hydrocarbons, and hydrocarbon mixtures (including crude oils) boiling between 75° and 350° F., which, with the addition of tetraethyl lead up to a total content of 3 cc. per gallon, will exceed 87 octane number by the A.S.T.M. knock-test method; or any material from which by commercial distillation there can be separated more than 3 per cent of such gasoline, hydrocarbon, or hydrocarbon mixture.

"The term 'commercial distillation' as used in the paragraph quoted above should be interpreted as meaning separation by ordinary refining fractionating equipment and does not include cracking or superfractionation with the production of narrow boiling cuts or compounds. Furthermore, to come within the definition, the amount of material obtained by this so-called commercial distillation must amount to at least 3 per cent of the original material and this 3 per cent or more must have an 87 octane number or higher, or it must be possible to ethylize it to an 87 octane number or higher with the addition of tetraethyl lead up to a total content of 3 cc. per gallon.

"The term 'aviation motor fuel' as used in the above-quoted paragraph should not be interpreted as applying to any gasoline which contains over 25 per cent of cracked products and has an octane number of less than 70, providing no synthetic isooctane, neohexane, or alkylates have been added thereto.

"No license is required for the exportation of kerosene, diesel oil, or fuel oil."



The line starts in Texas and traverses 10 states in reaching its terminus. Its cost is estimated at $80,000,000

Proposed Gas Line Would Tap Largest Remaining Market

THE richest potential natural-gas market remaining untapped in the country will be supplied by the Texas Gulf Coast fields if plans recently disclosed by the Reserve Gas Pipe Line Co. are consummated. Application for a certificate of convenience and necessity covering the 1,500-mile natural-gas line from the Texas Gulf Coast to New York City is now pending before the Federal Power Commission at Washington.

The area to be served by the proposed line embraces a population estimated at 14,500,000, out of which there are currently approximately 3,500,000 consumers of manufactured gas.

The pipe-line system proposed by the Reserve company would extend from a point in Texas through the states of Louisiana, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Virginia, Maryland, Pennsylvania, and New Jersey, and into New York.

Some conception of the potentialities of the northeastern market, into which the proposed pipe line would deliver southwestern natural gas, can be gained from the most recent data available on customers, sales and revenues of the manufactured-gas industry. In May the manufactured-gas industry served the three northeastern states as follows:

State—	Customers	Sales (M.c.f.)	Revenue
New Jersey	961,196	2,628,412	$2,958,553
New York	2,696,617	7,624,749	7,864,294
Pennsylvania	889,184	2,682,444	2,543,684
Total	4,546,997	12,935,605	$13,366,531

The application for a certificate of convenience and necessity estimates that the areas to be served with natural gas contain 3,500,000 users of manufactured gas. It follows that approximately 75 per cent of all manufactured-gas consumers in the three states are in the area that would be served with natural-gas fuel. Applying the ratio of 75 per cent to the total sales there would appear to be a potential demand for 9,701,703,750 cu. ft. of natural gas per month.

The potential revenue cannot be safely projected from that accruing to the manufactured-gas industry since the corporation seeking to enter the northeastern market bases its certificate application partially on the plea that fuel costs would be lowered.

It is proposed initially to construct a 24-in. main transmission line to be operated at a pressure of approximately 1,000 lb. per sq. in. Plans call for construction of two 10,000-hp. stations on the south end of the line and 11 stations of 9,000 hp. each.

Estimated cost of the line and compressor stations needed to make delivery at the gates of the Philadelphia, New Jersey, and New York City areas is $80,000,000. Financing of the project has been arranged with Glore, Forgan & Co., of Chicago and New York.

Bostick Heads Company

The Reserve Gas Pipe Line Co., headed by J. Willard Bostick, of Dallas, Tex., presently has available to it commitments covering a supply of natural gas in excess of 4,500,000,000,000 cu. ft., according to the application. The company advised the commission that the source of its supply is an area in the Texas Gulf coastal region containing a proven and developed natural-gas supply of approximately 17,750,000,000,000 cu. ft. not now utilized.

The supply, the application states, is contained in a number of separate and distinct pools, and is not confined to any one single pool of gas. The B.t.u. content of the natural gas available in the area of supply is such that it may be delivered at the terminus on the Atlantic seaboard at a heating value of not less than 900 B.t.u. per cu. ft. The "alternative and abundant supply of fuel" which would be made available to the densely populated industrial area along the northeastern Atlantic seaboard was described as particularly desirable at this time. Construction of the proposed facilities, the applicant states, would materially aid in the carrying forward of the program of national defense, both present and future.

Consideration is also invited of the contention that ultimate consumers would be enabled to purchase natural gas at rates lower than those prevailing for existing gas services with compensation made for the greater heating value of the natural fuel. The 3,500,000 potential customers in the northeastern area that Reserve Gas Pipe Line Co. is seeking to serve would be nearly half as many as the total consumers of natural gas reported in the May statistical summary of the American Gas Association.

Since the northeastern cities which would be served by the new line are highly industrialized, the volume of natural gas required to supply the demand may be considerably higher than the proportion of customers would indicate. This hypothesis is supported by the fact that less than one-half of 1 per cent of the total natural-gas customers in May were industrial accounts and yet consumed almost half of the total sales for that month. There were 39,200 industrial customers using natural gas in May out of a total of 7,476,700. The total natural-gas consumption in May was reported as 108,434,200,000 cu. ft., out of which industrial customers used 53,577,700,000 cu. ft.

Service through the 1,500-mile line would be confined to Philadelphia, New Jersey, and New York City, and would be provided through existing distribution facilities. This indicates that much of the manufactured-gas distributing equipment in the three main areas would be converted to the handling of natural gas and that negotiations have been at least opened with some of the most powerful utility interests in the East.

Mr. Bostick, president of the corporation organized in Texas for prosecution of the pipe-line project, has been active in southwestern oil operations for a number of years. At one time he was chief geologist of National Oil Co. of New Jersey and was a geologist for Southern Pacific Co. of California and Rio Bravo Oil Co., a wholly owned Texas producing subsidiary of the Southern Pacific Railway Co.

In recent years Mr. Bostick's interest in the oil industry has been more on the investment side of the business. He has extensive royalty and lease holdings as well as widespread interest in other forms of industry. He is a member of the American Association of Petroleum Geologists and was the donor of the golf trophy competed for annually by members of the association.

With exception of Philadelphia, where a comparatively small percentage of refinery-still gas is blended with manufactured gas, none of the cities on the Reserve company's projected system are currently served with natural gas. In addition to Philadelphia and New York City the highly industrialized eastern portion of New Jersey radiating from Newark and Jersey City offers an attractive potential market. The industrial nature of the potential New Jersey and Philadelphia markets is particularly attractive because of the high year-around load factor as well as the winter season prospective consumption for the entire area that would be served.

T. Rieber, Texas Corporation Chairman, Resigns Post

TORKILD RIEBER, colorful chairman of the Texas Corp., who rose from an obscure position in the marine department to head one of the industry's largest units, resigned August 12. "Cap," as Mr. Rieber is known to his intimates because of his marine background, submitted his resignation, which was accepted, "in view of the harm that might be done to the company by reason of the unfair and unjust criticism which had appeared recently in the press."

W. S. S. Rodgers, president of the Texas Corp., is expected to temporarily assume the additional duties of board chairman.

Mr. Rieber's name has been linked in recent weeks with that of Dr. Gerhardt A. Westrick, accredited as commercial counsel to the German Embassy in this country.

The board elected Mr. Rieber chairman in August 1935, succeeding Judge C. B. Ames. Mr. Rieber's first connection with the Texas Corp. was in 1905 and he served in various marine duties until 1909 when he was assigned to shore functions. Ten years later Mr. Rieber resigned to accept a position with the J. S. Cullinan interests. He was eventually promoted to vice president of the American Republics Corp., but in 1927 severed his connection to return to the Texas Corp. as vice president and director in charge of the export and marine departments.

Mr. Rieber was chiefly responsible for creation of the Colombian Petroleum Co., which acquired Gulf Oil Corp.'s interest in the Barco concession in Colombia for total consideration of $12,500,000. Since creation of Colombian Petroleum Co., jointly owned by Texas Corp. and Socony-Vacuum Oil Co., Inc., Mr. Rieber has maintained a direct personal interest in the operation and has made several inspection trips to Colombia in the past 3 years. About a year ago South American Gulf Pipe Line Co., also owned jointly by Texas and Socony-Vacuum, completed a pipe line from the Barco concession to Covenas at a cost of approximately $10,000,000.

The business relations between Mr. Rieber and Dr. Westrick were reviewed before the Texas Corp. board and the directors issued the following statement:

"He stated that he had been handling the foreign business of the Texas Corp. for many years and that in the course of business he had contracted in Germany for a number of tank vessels, several of which were delivered before the war, and two of which with the permission of the British Government were delivered after war was declared.

"Mr. Rieber stated that the Texas Corp. had not a cent of permanent investment in Germany and that the company has had no such investment there for more than 20 years.

"He also stated that the Texas Corp. and its subsidiaries had not delivered a single barrel of oil, either directly or indirectly, to the German Government since before the present war started.

"Mr. Rieber said that in the course of certain business transactions in Germany he met Dr. Westrick and had retained him on occasions for the Texas Corp. because of his reputation as an able and responsible lawyer; that recently when Dr. Westrick visited the United States, Mr. Rieber had extended to him business courtesies and loaned him a Texas Co. car.

"Dr. Westrick, rather than make use of the company car, stated he would prefer to have one of his own. Because of exchange restrictions, Mr. Rieber arranged for the advance of the money to buy a car, which money was to be thereafter repaid to the Texas Co.

"Mr. Rieber stated he had seen Dr. Westrick on three occasions; that he had never been in his Scarsdale residence; that he had not seen him since the 11th day of June, and that so far as he, Mr. Rieber, knew, Dr. Westrick was here only in the interest of promoting business between the United States and Germany and had in the furtherance of that end seen many prominent business and professional men in this country.

"As for himself, Mr. Rieber stated that this country has honored him with its citizenship and that under no circumstances could he be identified with, or sympathetic to, any kind of un-American activity.

"He said that while he was born a Norwegian he had spent practically his entire life in this country, and that he had entered the employ of the Texas Corp. at the age of 22; that it was with real regret

TORKILD RIEBER

that he submitted his resignation as chairman of the board of the Texas Corp., with which the greater part of his business career had been identified. However, he said, that in view of the harm that might be done to the company by reason of the unfair and unjust criticism which had appeared recently in the press, he felt it his duty to the stockholders, as well as to the organization, to resign as chairman of the board of the Texas Corp. and as an executive officer of the corporation and its subsidiaries."

●

Skelly Takes Over East Texas Refining Co.

DALLAS, Tex.—At a reorganization meeting of the East Texas Refining Co., here, Freeman W. Burford, president and director, resigned as of August 1, it was announced last Thursday. The stockholders then named William G. Skelly as president; C. C. Herndon as executive vice president; L. F. Brothers as vice president; F. T. Hopp, secretary-treasurer; W. K. Cottrell, assistant, and John R. Scott, assistant secretary.

It was announced that the Skelly Oil Co. now owns 100 per cent of the East Texas stock and it will be operated as a Skelly subsidiary. John J. Thomas will continue as superintendent of the Longview refinery, and H. H. Haber as superintendent of production, with offices at Dallas.

Motor Club Condemns Alky-Gas Schemes, in NBC Broadcast

"The mandatory use of alcohol-gasoline would be economically impractical and a cruel financial hardship on motorists and farmers alike," J. J. Cavanaugh, vice president of the Chicago Motor Club, declared in a broadcast over NBC Blue Network, August 10.

Replying to a previous broadcast by Congressman Tenerowicz of Michigan, in which he advocated enactment of a bill he has introduced to compel specified portions of farm alcohol in all gasoline shipped in interstate commerce, Mr. Cavanaugh stated that 10 per cent of alcohol in gasoline "would cost at least 3 cents per gallon more than gasoline of equal anti-knock value.

"This means that the nation's bill for the 23 billion gallons of motor fuel which it annually consumes would be increased by the staggering sum of 690 million dollars," he said. "We can find no added efficiency in an automobile engine operated on alcohol-gasoline to justify this added cost."

Sun's Michigan Discovery Flowing 62 Bbl. Hourly

SAGINAW, Mich., Aug. 12.—Sun Oil Co.'s expectations regarding its No. 1 J. F. McKenna wildcat in Hamilton Township, Clare County, were raised over the week end as the well flowed 62 bbl. an hour continuously from late Saturday through Sunday. The result was an influx of oil men and royalty speculators, reported to be offering from $100 to $200 an acre on lands in the vicinity which prior to the strike were practically worthless. Sun Oil, however, apparently is well protected, being reported to have 24,000 acres leased in the immediate vicinity of the well in Section 15.

A week ago when the hole filled approximately 2,000 ft. with oil, operations were suspended at a total depth of 3,751 ft., tanks were hurried to the scene, and when the hole was deepened 3 ft., oil shot over the top of the rig. While company officials waited for the well to prove itself further, tests indicated clean oil, no water, and a grade about like that of Clare's Temple field.

Six Independents May Form Cooperative Market Group

LOS ANGELES, Calif., Aug. 13.—Six California marketers who were forced to shut down or severely reduce gasoline sales last May when the so-called gasoline pool was discontinued and the Independent Refiners' Association disbanded have held a series of meetings during the past few weeks in order to thoroughly investigate a cooperative marketing proposal. Final plans are now under way to market the production of six independent refiners under one brand. In order to do this, the refiners must conform with minimum specifications set out if they wish to hold together. This cooperative marketing organization will obviously reduce selling expense as well as other overhead. The margin between the crude-oil price and gasoline prices is so narrow that many refiners find it impossible to operate. By banding together they hope to be able to market their current production of gasoline.

Some difficulty is expected, however, because it is almost impossible for any group to determine just how much each marketer should contribute to the pool in the form of gasoline. Selling costs and operating overhead of the pool irrespective of actual refinery expenses will be prorated back to marketers on a gallonage basis. The marketing companies in the new cooperative plan are Exeter Refining Co., North Long Beach; McCallen Refining Co., Huntington Beach; Mercury Petroleum Co., Venice; Harbor Refining Co., Long Beach; Envoy Petroleum Co., Long Beach and El Camino Refining Co., Los Angeles. The idea is to effect economies incident to marketing under one brand and a single distributing group.

Independent to Remodel Plant And Install Poly Unit

KILGORE, Tex.—The Independent Refining Co., Arp, Tex., has signed a licensing agreement with Universal Oil Products Co. and conversion of its 1,500-bbl. cracking unit to the Dubbs process will begin immediately. A U.O.P. catalytic polymerization unit and new absorber and stabilizer equipment will also be installed under the modernizing project, and a capacity of 2,000 gal. daily of polymer gasoline will be produced from the finished plant. The Independent refinery has a daily crude capacity of 3,500 bbl.

The license agreement was signed for Independent by W. R. Skeen, trustee for the partnership whose members are Joe B. Skeen, A. L. Skeen, Ecta Walters, Ben T. Parish, F. O. Penn and C. W. Curtis. Mr. Curtis is manager of operations and C. Zimmerman is refinery superintendent.

STATE CAPITALS...

CALIFORNIA

TWENTY INDEPENDENT OIL COMPANIES and a trade association entered pleas of nolo contendere in District Court at Los Angeles last Friday to charges of violating the antitrust act. In so doing they followed the lead set by standard Oil Co. of California, General Petroleum Corp., Union Oil Co., and Shell Oil Co., Inc., who earlier entered similar pleas and were fined $4,500 each. Federal Judge Paul J. McCormick imposed fines of $1,500 and $1,000 on the 20 oil companies and a fine of $4,500 on the Independent Refiners Association of California.

Fines of $1,500 each were imposed on the following companies: R. R. Bush Oil Co., Caminol Co., Ltd., Century Oil Co., Envoy Petroleum Co., Estado Petroleum Corp., Hancock Oil Co. of California, Kern Oil Co., Ltd., Mercury Petroleum Corp., Olympic Refining Co., Triangle Oil & Refining Co., and the Macmillan Petroleum Corp.

Fines of $1,000 were imposed on the following companies Aromalene, Inc., California Oil & Refining Co., East West Refining Co., El Camino Refining Co., El Tejon Oil & Refining Corp., Harbor Refining Co., Pan Pacific Oil Co., Rothschild Oil Co., and Socal Oil & Refining Co.

KANSAS

KANSAS' RIGHT TO OUTLAW special crude-oil allowables was upheld last week by the Circuit Court of Appeals in what is generally regarded as the first high-court test of the state's new oil and gas-conservation law. The decision, delivered by Judge Orie L. Phillips, reversed a previous ruling by Richard J. Hopkins and held that the Kansas Corporation Commission was within its rights in charging overproduction against an operator who ran oil from a common pool in excess of that produced by other operators under the commission's order. The ruling was in a case involving Jesse Wall, receiver for the Skiles and Hinerman lease in the Campbell pool of Rice County.

The Corporation Commission charged that the lease had overproduced 9,790 bbl. of oil while a temporary injunction was in force restraining the commission from enforcing allowables for the lease based on the 1939 conservation act. In reversing the lower court, Judge Phillips held that classification of the overproduction "would right to some degree the wrong done to the other owners producing oil from the common pool whose allowable production was restricted during that period by the commission's order, resulting in the receiver obtaining more than his share of the oil from the common pool."

"Because they (oil and gas) are natural resources," the opinion added, "the public has a definite interest in their preservation from waste, and the state has the power to regulate the production of oil and gas for the purpose of preventing waste and protecting the correlative rights of owners producing oil or gas from a common pool."

LOUISIANA

GOV. SAM H. JONES of Louisiana has deferred his decision to join the Interstate Oil Compact. Without taking a definite negative stand on the issue, the state will continue to cooperate with other oil states in preventing overproduction, and will restrict its participation in the compact to representation of observers at all meetings. In his statement regarding the matter, Governor Jones said, "As far as I am concerned I can't see why Louisiana should enter the compact as long as there are other states outside it, particularly Illinois, where I understand there is no proration at all."

Under the present administration of its conservation law, the Louisiana Department of Conservation is issuing proration orders based on conservation and market demand as reflected in regular bimonthly statewide hearings. Current state allowables are below the U. S. Bureau of Mines estimates for August demand of Louisiana crude, and adherance to such estimates is indicated for the future.

It is felt that the state should continue to cooperate with members of the compact and to hold production to a figure commensurate with market demand and conservative withdrawals, but that membership in the compact is futile and might entail undue cuts in production. In the even such cuts were not considered justified the state would be placed in the position of withdrawing from the body, and it is believed that sufficient cooperation can be rendered by the state in its present position.

The governor is authorized to exercise his discretion to enter into and make the State of Louisiana a party to the compact commission and to withdraw from it, under the terms of a concurrent resolution adopted by the state legislature. The governor is further empowered to appoint a representative for the commission. For the time being, however, he will send either Conservation Commissioner B. A. Hardey or George A. Wilson, attorney for the Department of Conservation, as observers to all compact meetings, including the coming one at Oklahoma City.

OPPOSITION IS VOICED by some oil-company interests in Louisiana, to the new state law requiring companies to furnish the Department of Conservation, or its succeeding Department of Minerals, with geophysical information on state oil lands. State officials believe that the measure would not be harmed by administration of the law, and called for a meeting of oil and geophysical attorneys and conservation department and minerals board officials, at which a practical and satisfactory "application blank" for permit to explore state lands could be worked out.

TEXAS

THE RAILROAD COMMISSION last Saturday added approximately 23,000 bbl. daily to the state's allowable during the remainder of the month by exempting 22 fields from the remaining shutdown days. The exemptions, plus restoration of the former allowable to the Walnut Bend field, are expected to place Texas' allowable about 100,000 bbl. below the Bureau of Mines estimated market-demand figure. On Saturday the commission reported that the allowable was 1,200,364 bbl. daily, a reduction of 80,104 bbl. from the previous week, which was due to the adding of two additional shutdown days. This placed the state allowable at 126,036 bbl. below the bureau's figure. Thus adding of 23,000 bbl. through exemptions, and the added allowable required for new wells, is expected to bring the total daily allowable about 100,000 bbl. below the bureau's figure of 1,326,400 bbl.

The Walnut Bend field's allowable was raised from 2,240 to 3,960 bbl. The fields exempted from the shutdowns, and their allowable, were: In Southwest Texas: Colemena, 196 bbl.; North Government Wells, 6,269; South Government Wells, 3,042; Seven Sisters, 6,435: Seven Sisters (south), 433; Hoffman, 5,387; Piedre Lumbre, 2,049; Lopez, 4,927; Placedo, 5,386; McFaddin, 2,494, and Oakville, 695. In West Texas: Church-Fields, 3,928 bbl; Estes, 7,356; Goldsmith, 22,382; Gulf-McElroy, 8,735; Keystone (Colby), 3,226; Keystone (lime), 2,010; McClintic, 975; North Ward, 5,887; Penwell, 3,065; Waddell, 1,753, and Waddell-Ella, 30. The Kerran and East Placedo fields were reduced from 938 to 555 bbl. and 718 to 373 bbl., respectively, due to the weak demand for their crude.

CANDIDATES FOR TEXAS RAILROAD COMMISSIONER . . .

PIERCE BROOKS

OLIN CULBERSON

In the recent Texas primary election the two leading candidates for the office of railroad commissioner were Pierce Brooks of Dallas, with 206,863 votes, and Olin Culberson of Austin, with 206,680 votes. Thus nominee to succeed Chairman Lon A. Smith, whose term expires this year and who did not run for reelection, will be decided in the runoff election to be held on August 24.

Mr. Culberson, who served as chief of the Gas Utilities Division of the Railroad Commission from 1932 to October 1939, was born at Turnersville, Tex., in 1886. After being educated by his parents at their Culberson Select School at Hillsboro, he became a railroad worker in 1905. In 1911 he became deputy clerk and after the World War in 1918 he was elected to two terms as county clerk, followed by two terms as county judge in Hill County. In 1932 he accepted the post of chief examiner and later became chief of the Gas Utilities Division. In 1934 and 1935 he was asked to take over the enforcement of oil conservation. As "director of pipe lines" he was charged with working out and installing the first oil-tender system.

Pierce Brooks, Dallas, Tex., business man, was born 39 years ago on a small farm in Alabama, attended a country school and his first job was that of clerking in a grocery store. He later migrated to the oil fields where as a roughneck he saved sufficient money to open a small realty company in Dallas. This company has grown considerably since its establishment 19 years ago and has been his full-time business to date. He entered public life about 8 years ago when he launched his efforts to establish and back safety campaigns throughout Texas, including the establishment of more than 100 junior safety patrols.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Imports

Mounting imports of petroleum in recent months are again raising the question as to what the industry's attitude should be in regard to these outside supplies.

Many would answer the question quickly by enacting the legislation necessary to stop all inshipments, reserving all of the domestic markets to domestic operators. Unfortunately or otherwise there is little likelihood of so simple a solution being approved at this time.

In a paragraph the import situation is this: The first 6 months of this year imports of crude oil and refinery products sold in domestic markets averaged 163,400 bbl. daily, a gain of 70,800 bbl. daily or 75 per cent over the same period last year. In addition, imports under bond for reexportation were 48,900 bbl. daily, a 25 per cent decline. In July, imports continued to increase with a daily average of 241,643 bbl., the highest since 1930.

Most of the gain has been a development of the trade agreement with Venezuela which halved the normal 21-cent-per-barrel duty on a large part of the crude oil and low-gravity products imported this year.

The State Department has not made a secret of what its position will be should this particular trade agreement be attacked.

Supported by the Department of Interior, it will justify the enlarged imports as tending to conserve the petroleum resources of this country with emphasis now placed on the necessity of assuring future defense needs.

The present head of the department which negotiated the trade pact will say that it is shortsighted to enlarge production to satisfy all these low-priced fuel markets which can readily be supplied from the outside.

The trade-agreement policy generally will be defended with testimony showing that it has expanded export markets and thus strengthened the domestic economy from which the oil industry has benefited. While the Venezuela pact increased petroleum imports, agreements with other countries will be cited which have added materially to the petroleum export outlets.

Within the industry there are those who feel that the increased imports this year—consisting principally of the low-grade fuel oils—have aided, not harmed, domestic markets.

Production and storage data are presented to show that refiners in endeavoring to supply a record demand for distillates and fuel oils ran too much crude to their stills and overproduced gasoline with results that have been apparent from week to week in the price charts.

This condition, it is said, would have been more serious had the imports not supplied part of the increased demand for these residual and intermediate products.

Other observers will go farther and attack any claims that curtailment of imports is a protection to domestic producers. They emphasize the essential international characteristics of oil markets.

Imports shut out of this country, they explain, find other outlets where they come in direct competition with export sales from this country.

Thus the base prices for petroleum products exclusive of taxes and transportation are the same in London, Buenos Aires, Tokyo, Los Angeles and Port Arthur.

According to this international view it is far more important to do everything possible to promote exports which represent 15 per cent of the total demand of producers and refiners in this country than it is to be concerned with imports which account for 5 per cent of the supply of the least essential products.

These contentions of Washington and elsewhere cannot be dismissed with a wave of the hand. The situation merits a close study with the final decision resting on the long-range outlook, not the temporary war aspects.

Bradford Company Reduces Crude Prices During August

A DECLINE of 26 cents in the realization obtainable from refining a barrel of Bradford, Pa., crude oil since June 29 caused Bradford Oil Refining Co. to make another cut of 25 cents per barrel for crude it will purchase during August.

In announcing decision of the Bradford company's board to pay $1.75 per barrel for August deliveries, Dr. E. R. Lederer, president, explained the circumstances making the reduction necessary. He declared that the realization from a barrel of Bradford crude had declined 26 cents since June 29 because of depressed conditions in the market for products. Operations at the refinery in Bradford, the president pointed out in a message to producers, were conducted at a loss in July due to steady decline in market values of products. He added that competing Pennsylvania refineries took away considerable business because his plant refused to sell at uneconomic, low prices.

The reduction was made effective at 7 a.m. August 8. Producers willing to accept settlement on the basis presented by the Bradford company were invited to express their decision.

The Bradford company's reduction of crude prices from $2.25 to $2 per barrel in the Bradford district on June 29 was followed July 12 by a general reduction throughout the district.

"We are not able," wrote Dr. Lederer to crude suppliers, "to pay more for our own raw material than we are able to get for the manufactured products. We are the only refinery in Pennsylvania which has consistently and radically reduced crude runs since January 1940, when the decline in demand and market prices became evident."

Quaker State Oil Refining Corp. has reduced its crude purchases 10 per cent from the averages of June and July, effective August 1. Tide Water Associated Oil Co. reduced its purchases to 75 per cent of the base contracts compared to previous runs of 85 per cent. Kendall Refining Co. has cut its runs to 90 per cent of the contracts.

Reduce Rental Fees in Public-Domain Leases

WASHINGTON, D. C., Aug. 12.—Reduction in the rental fees of certain oil and gas leases on the public domain is provided in legislation recently enacted and now in effect. The measure, public law No. 726, was sponsored in Congress by Sen. Joseph C. O'Mahoney of Wyoming.

This act provides that in the case of lands not within any known geologic structure of a productive oil or gas field the Secretary of the Interior shall waive rentals due in the second and third years of the 5-year leases issued under Section 17 of the general leasing law. Some 5 years ago Senator O'Mahoney sponsored legislation under which outstanding oil and gas prospecting permits were exchanged for leases and it was stipulated that in the case of such leases no rent would be charged for the first and second years. The new legislation applies only to new leases, and in this case the Geological Survey objected to a proposal to waive the rent for the first 2 years on the ground that many leases would be taken out and then abandoned without any rent being paid unless oil were discovered.

Bribery Charges Filed In Louisiana Oil Case

NEW ORLEANS, La.—Charges against former Gov. Richard W. Leche and others that figured prominently in the 1939 federal investigations in Louisiana were revived last week with filing of charges of bribery against Mr. Leche and Seymour Weiss. Dist. Atty. J. Bernard Cocke, of Orleans Parish, filed direct bills of information charging the two men directly and indirectly received a bribe in connection with the 1936 alleged hot-oil case in which the federal Government has charged they conspired to evade the Connally Act.

Mr. Cocke also filed another bill of information charging Freeman W. Burford, of Dallas, Tex., and A. C. Glassell, of Shreveport, La., president of the Pelican Oil & Gasoline Co., Inc., with having given Messrs. Leche and Weiss the alleged bribe, amounting to $48,592.66, or 10 cents a barrel "commission" for each barrel of oil produced under an alleged illegal order violating the act.

The bill of information was based upon the allegations in a federal indictment returned here August 7, 1939, against Messrs. Leche, Weiss, and Burford. The Government charged at that time that Messrs. Leche and Weiss benefited through an arrangement whereby illegally produced oil was run from the Rodessa field into Texas and therefore moved in interstate commerce.

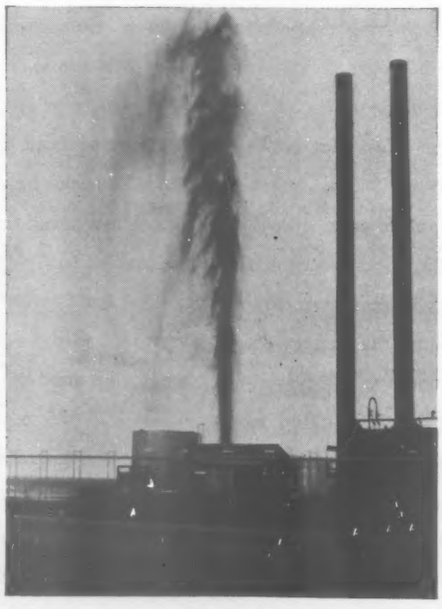
Well Threatens to Destroy Davis Recycling Plant

ALICE, Tex.—A wild well located in the heart of the Alice field, Jim Wells County, threatens to destroy the newly constructed recycling plant of W. R. Davis. The well, No. 2 Ingram Bryant, located about 300 yd. north of the plant on U. S. Highway 281, blew out through casing and charged high-pressure gas into several water wells in the vicinity, causing numerous craters within a ½-mile radius of the plant.

The epidemic of wild water wells first broke out when a water well in a farmer's yard about 200 yd. from the oil well began spewing water, gas and sand. Then Wednesday afternoon, a water well in the yard of the recycling plant broke loose around the casing and began spraying sand and gas with some water about 160 ft. into the air. Immediately afterward, three gas craters formed in a cotton field across the railroad tracks from the plant.

The gas apparently is coming from the No. 2 Bryant near the recycling plant, officials said, and the gas is originating from about 1,500 ft. The city of Alice obtains its water from the 700-ft. strata that is being threatened by the wild gas pressure.

Traffic along the highway was being detoured around the danger area, and the Southern Pacific Railway Co., whose tracks parallel the highway, continued to send trains over the right-of-way, although fires under the boilers of the locomotives were extinguished while passing through the area to minimize danger of fire.



High-pressure gas well throwing up water while out of control in the Alice pool of Texas

DEATHS

WILLIAM T. ATKINS, 56, vice president of Skelly Oil Co., died at his home in Muscatine, Iowa, Tuesday. He had been in ill health for several months, suddenly becoming worse about 10 days ago upon his return from a vacation trip. He was in charge of the marketing division of Skelly at Kansas City. His widow and a daughter survive.

JOHN J. KENNEY, 70, retired general manager and director of the Eureka Pipe Line Co., died of a cerebral hemorrhage August 4, while attempting to release his automobile bumper locked with the bumper of another machine on a Pittsburgh, Pa., parking lot. He retired about 10 years ago after 40 years' service with the company.

A. J. GRINKE, 35, chief clerk in the Dallas, Tex., headquarters of Community Natural Gas Co. and Texas Cities Gas Co., died August 6 at Dallas from complications resulting from an attack of appendicitis.

EDWARD W. JONES, 58, president of E. W. Jones, Inc., Tulsa, died following a stroke in a hospital in that city on August 9. He had been in ill health for the past 2 years. He entered the oil business in 1920, forming a partnership with his brother, F. D. Jones of Dallas, Tex.

JOHN B. WALLACE, 69, superintendent of the Union Gasoline & Oil Co., died at his home in Wheeling, W. Va., after a brief illness. Born in Oil City, Pa., he held many positions in the oil industry. He was president of United Fuel Gas Co., first superintendent of the Hope Natural Gas Co. in West Virginia and later was affiliated with Logan Gas Co. in Ohio.

THE MARKETS*

CRUDE OIL: The crude-oil market continued to recover from a threatened breakdown in July. An exception is Pennsylvania where Bradford Oil Refining Co. cut crude 25 cents August 8. Bryson Oil & Refining Co. returned its prices to the North Texas graduated gravity scale, effective August 6. Cities Service Oil Co. entered Illinois as a purchaser posting a flat price of $1.05 per barrel at the well, subject to delivery at its East Chicago refinery by an adequate tender. Amsco Pipe Line Co. restricted its purchases in the Corpus Christi area to 5 bbl. daily per well. At one time Amsco was running 3,000 bbl. daily from 141 wells. The reduction in purchases was blamed on the cessation of exports to France.

REFINERY: Motor-fuel markets show little change throughout the country. The tank-car prices in Chicago appear a little stronger; volume of shipments from inland refineries is satisfactory; Gulf Coast prices are soft and movement is restricted.

TANK-WAGON AND POSTED DEALER: A reduction of 2 cents in the tank-wagon price for regular gasoline was made at Denver, Colo., August 3. Details of the general reduction in gasoline prices posted by Socony-Vacuum Oil Co., Inc., August 7 became available this week. The dealer price at Scranton, Pa., was reduced 0.25 cent.

Financial: Oil securities sold off fractionally last week. Average of 30 representative stocks for the week ended August 10: High, 21.38; low, 20.70; close, 21.07. Week ended August 3: High, 21.61; low, 20.94; close, 21.29.

*Detailed information in Market Section.

Hold Hearing on Bill to Amend National Stolen Property Act

By HENRY D. RALPH

WASHINGTON, D. C., Aug. 12.—Accusations that the Standard Oil Co. of New Jersey was backing legislation to discredit the Sinclair expropriation settlement with Mexico and impede the increasing flow of imported Mexican petroleum featured hearings before a House judiciary subcommittee last week on the Sheppard-McCormack bill. The measure, which has already passed the Senate, would amend the National Stolen Property Act to prevent the importation of property confiscated by any foreign government.

The charges were made by Patrick J. Hurley, attorney for the Sinclair interests which recently reached an agreement with the Mexican Government on their expropriated oil lands. Claiming that it was the intention of the bill's sponsors to hinder the agreement, Mr. Hurley quoted the bill to show it would not apply to Sinclair imported oil.

The appropriate section of the bill reads: "The word 'confiscation' shall be deemed to include the taking of any property . . . without payment in United States currency or its equivalent having been made or provided for in a manner acceptable to the owners of the property so taken." Since the Sinclair companies have been paid in United States currency or its equivalent in a manner acceptable to them, Mr. Hurley said, they are thereby exempt from the bill. But, he stated, the bill might apply to other companies who import Mexican oil.

Mr. Hurley quoted Rep. Lindley Beckwith of Texas, an oil producer, as saying, "The bill is definitely intended to interfere with carrying out the Sinclair agreement."

In reply to charges that Mexican oil in payment of the Sinclair settlement flows not only from Sinclair wells but from other wells also, he admitted it would be impossible to differentiate between Sinclair oil and expropriated oil, but he held it is possible to keep the two types of petroleum apart in the same pipe line.

Answering accusations that Sinclair was flooding the market with cheap Mexican oil and causing the fall of prices in Texas, Mr. Hurley cited figures to prove the Sinclair agreement called for the importation of 13,671 bbl. per day, which is only 1 out of every 22 bbl. of all imported oil. Standard of New Jersey alone imports 87,500 bbl. daily, or over six times as much as does Sinclair from Mexico, he said. He added that since Sinclair pays prices for much of the Mexican oil equal to Texas prices for the same grade of oil, and since the oil is sold all over the country, Sinclair cannot be held responsible for lowering of Texas prices. This section of his testimony was similar to one of the statements he presented last week before the Texas Railroad Commission.

Green H. Hackworth, legal adviser of the State Department, testified the bill would cause difficulties with foreign governments and would give rise to administrative and judicial confusion. He quoted the United States courts, including the Supreme Court, to show they lacked jurisdiction in expropriation cases.

Arthur C. Logan presented the opposition of the Eastern States Petroleum Co., which has a contract covering imported Mexican crude, some of which may come from expropriated wells. He pointed out the bill would apply, among many other cases, to oil tankers seized by Great Britain from European nations, and said by its language the bill might even be applied to state governments and bureaus of the national Government which take over property.

Approval of the bill was expressed by Russell B. Brown, counsel for the Independent Petroleum Association of America. Claiming the reductions in Texas production are due in large part to an oversupply of Mexican oil, he said the United States produces enough petroleum for its own needs, and such importations should be prevented by the Government.

●

I.C.C. Orders Rehearing in Rail Shippers Case

IN an unusual move the Interstate Commerce Commission last week ordered a rehearing in the Petroleum Rail Shippers Association case. The commission, which rarely reopens such proceedings, scheduled the hearing for October 9, 1940, at the Skirvin Hotel, Oklahoma City, Okla., before Examiner C. E. Stiles.

The hearing concerns the advisability of inaugurating multiple-car, or trainload, rates on gasoline shipments from the Mid-Continent area to midwestern points.

In addition to the introduction of new evidence, the commission asked for information on the difference in cost of carriers and the value to shippers of carload and trainload rates, where and how trainload rates should be prescribed, how to determine the spread between the two types of charges, and the reasonableness of gasoline pipeline rates. The notice stated there will be no further proposed report.

The move was presumably due to the importance the commission attaches to the case, and to the complaints received against Examiner Stiles' report. It was charged that the question of trainload rates had not been brought up in the original complaint, and no evidence had therefore been introduced in the proceedings. In his report of last April, Mr. Stiles had recommended trainload rates at a level below the present carload charges to apply to shipments of 25 tank-car loads of gasoline of 8,000 gal. each. (The Oil and Gas Journal, May 2.)

At oral argument before the commission in July, representatives of independent refineries came out in favor of trainload rates, but they held the proposed rates were too high and should be lowered. The railroads called for rejection of the new charges on the grounds that the commission lacks authority to prescribe them. (The Oil and Gas Journal, July 25.)

Specifically, the commission asked for evidence on the following questions:

"(*a*) The difference in cost to the carriers and value to the shippers of the service when rendered under single-carload rates and when rendered under rates applicable on units of not less than 25 tank-car loads of not less than 8,000 gal., shipped under one bill-of-lading from one consignor over one route to one consignee at one time.

"(*b*) If multiple-car rates are prescribed to gasoline pipe-line terminal points only, whether (1) they should be required to be made applicable at intermediate points, or (2) relief should be granted under the long-and-short-haul clause and/or the aggregate-of-intermediates clause of the fourth section.

"(*c*) If multiple-car rates are prescribed, whether they should be prescribed to other than gasoline pipe-line terminals and intermediate points.

"(*d*) Views upon the question whether the spread between single-car rates and multiple-car rates should be controlled entirely by the difference in cost of rendering the two services, or whether other considerations ordinarily entering into rate making should enter into the determination of that spread. Those other considerations embrace such matters as value of the service to the shipper, including evidence of what the traffic can bear, condition of the industry, effect of rates on the movement of traffic, and relation of freight rates to value of the commodity, etc.

"(*e*) The reasonableness of the gasoline pipeline rates, including cost to the carriers of transportation, valuation of the gasoline pipe-line properties, and reasonableness of the minimum tender of 25,000 bbl."

●

Antitrust Case Against Oil Companies Still Dormant

THE National Defense Advisory Commission has not yet reached a decision whether or not to make a formal request to the Department of Justice to drop its plans to bring a suit against major oil companies to seek disintegration and divorcement of pipe-line and marketing facilities. The department has agreed not to proceed until the commission has studied the matter, and observers in Washington are still inclined to believe that the commission will recommend against action at this time on the ground that disruption of the oil industry would impair its efficiency for purposes of national defense. If this is done there probably will be a detailed explanation of the reasons, but this may not satisfy independent marketers and certain members of Congress who consider integrated oil companies to be an economic evil. Attempts may be made to revive the now-dormant bills calling for divorcement through legislation, but any defense arguments against disintegration by court action would apply equally to disintegration by legislation, so if the Defense Commission opposes the idea it probably will be dead for the duration of the emergency.

International

War . .

Widespread Destruction Of European Properties

DESTRUCTION of oil properties in Europe has been "widespread," according to the annual report of the Shell Transport & Trading Co., Ltd., which has reached this country.

Holdings of the Shell group are extensive in practically all European countries and the management's reference to the war damage is revealing in that respect alone.

In reviewing the European situation with respect to oil operations, Lord Bearsted, chairman of the company, told how the closing of markets, property damage and other contingencies of the war caused the report to be less revealing this year than in the past.

Extracts from Lord Bearsted's remarks regarding effect of the war on operations follow:

"As mentioned in the report, it has been considered advisable, having regard to the widespread destruction of property in European countries in all of which our operating companies have large interests, that the liquid resources of the group should be conserved.

"Apart from the destruction of property which has taken place, the group's results for 1939 would have made a not unfavorable showing. Including the last 4 months of the year and viewing the situation as it was at the end of the financial year, the declaration of further dividends by the operating companies would indeed have been fully justified. Since then, however, many factors have intervened and the boards of the operating companies could not ignore the events of 1940 when considering the position as it now stands.

"It is impossible for me to give you any indication of the present trend of the earnings of the companies in which we are interested. As would be expected, statistical information is not coming in with the same regularity and promptness as under normal conditions and, quite apart from this, I am sure you would not expect me to undertake to appraise our position under the conditions ruling today. Many markets are closed; we have to keep constantly before us the possible closing of others and so to arrange our affairs as to endeavor to reduce to a minimum the losses that may be involved. I have only to remind you that besides Germany and Italy, Sweden, Finland, Norway, Denmark, the Netherlands, Belgium and now France are cut off from the world of commerce. In many of these countries widespread destruction has taken place and besides installations and refineries large quantities of products have been destroyed.

"You were advised in the company's report that, for obvious reasons, we were not able to give the usual information regarding our fleet and production, and I fear that it is not possible for me to enlarge upon these features here.

"Fortunately, before the outbreak of war we took steps to assure the continued maintenance of the group's technical organization. Of recent years the group has built up a very efficient and elaborate research and technical organization in the United States of America. In addition to this the group now has in England not only its normal technical organization but also a large staff of technicians, expert in every phase of the business, ranging from chemical and oil-field research to geological, production, transportation, and refining matters, and the normal routine of this side of the group's activities has therefore continued without interruption.

"As mentioned in the report, the Bataafsche Petroleum Maatschappij and other group Netherland companies have transferred their seats to Curacao and now function outside the Kingdom of the Netherlands in Europe.

"At the outbreak of war a carefully prepared plan for the pooling of all marketing organizations in this country was put into effect and the distribution of petroleum products in the United Kingdom and northern Ireland came within the control of the Petroleum Board. The advantages of such a scheme during wartime are obvious. The operation of the Petroleum Board is to be confined to the period of hostilities and a limited time thereafter which will be needed to revert to normal operations."

Mexico . .

Economy Efforts Meet Opposition

EFFORTS of President Cardenas to impose economies on the expropriated petroleum industry and place it on a break-even or profitable footing are meeting stern opposition from the labor syndicates. The opposition shown by the workers is being put aside as gently as possible but some observers feel that the showdown may leave the government almost as helpless as the private companies eventually found themselves just before the properties were expropriated in March 1938.

The latest move by the Mexican Goxernment was the consolidation of the petroleum administration and distribution departments into the third body, Petroleos Mexicanos. Petromex, as the long-established government company is known, operated as a separate entity for several years before expropriation and had supervision of numerous operations. The Petromex company had producing operations in the Poza Rica field, a pipe-line system to Mexico City and a refinery at that place. Because of previous experience in petroleum operations, Petromex personnel is generally considered the best-qualified group at the disposal of President Cardenas to establish profitable administration. The unified government petroleum agency, Petroleos Mexicanos. will be directed by a board of nine administrators, five to be named by the government and the rest by the oil workers' syndicates. The most recent workers' protest was in the form of a picket line around the Petroleos Mexicanos refinery at Mexico City. Workers opposed appointment of Javier Cortes Obregon as technical director of the refinery. Obregon is a nephew of Vincente Cortes Herrera, general manager of the government oil agency.

Sweden . .

Gasoline Famine Becoming Threat

SWEDEN has joined the lengthening list of European countries suffering from a gasoline famine and has appealed to British authorities for a navicert for a badly needed cargo of gasoline that is reported loaded on the tanker Saturnus in Houston, Tex. Despite the fact that Sweden has assured Great Britain's economic warfare ministry that the gasoline is intended exclusively for internal consumption, there is some fear that the navicert will be refused since there is a possibility of the cargo falling into German hands. Sweden, shut off from the Atlantic by the twin blockades of Germany and Great Britain, recently was given permission to use a Finnish Arctic port.

Another European nation has taken steps to conserve its gasoline supply, Switzerland announcing restrictions on the export of this product. Under new regulations issued by the federal economy department, the export of gasoline and fuel oil is forbidden except for 10 l., about 2⅝ gal., in the tanks of cars crossing frontiers.

Spain's critical gasoline shortage may be relieved as the result of a study now being carried on by British economic experts. Spain has contended that imports of oil have been entirely for domestic consumption but Great Britain has required navicerts for all shipments to this country in the belief that excess quantities have gone to Germany and Italy. The Spanish contention has been supported by Great Britain's minister, Sir Samuel Hoare. Spain has contended that her national economy has been seriously disrupted by the lack of gasoline and gave weight to this contention by recently introducing severe restrictions on its use.

APPLICATION of the Swedish internal tax on imported and domestic motor fuel has been postponed until July 1, 1941. The tax was established in 1929 to have become effective in 1933, but its application has been continuously postponed.

Japan . .

Korea to Have Isooctane Plant

THE Korean Oil Co., Ltd. (Chosen Sekiyu K.K.), a joint enterprise of the Nippon Nitrogen Fertilizer Co. and Nippon Petroleum Co., will shortly begin construction on a plant to produce isooctane for use as aviation fuel.

Japan has already one isooctane plant, which was built under U.O.P. license, and a second plant, also a Universal design, is nearing completion. Both plants are located at Kawasaki, between Tokyo and Yokohama.

Since Japan is unable to obtain American blueprints and engineering assistance under the existing "moral embargo" ruling, oil men here speculate on the process to be used by Korean Oil, which has not been disclosed by the firm.

The Dai Nippon Salt Industrial Co., which is producing a score of chemicals from sea water, has finished work on a pilot plant producing ethylene dibromide for use as antiknock agent in conjunction with tetraethyl lead. The plant is located at Kamata, near Tokyo.

Production of tetraethyl lead will be taken up shortly by the Nippon Soda Co. and the Hodogaya Chemical Co. Two of the three patents reserving the use of the lead compound to Ethyl Gasoline Corp. expired last year.

The story of cementing a well that was Hot as the Hinges of Hell!

● Pump in action on deep oil well which was protected against lay-downs by using Unaflo Oil-Well Cement—the easy-flowing hard-setting cement with the retarded set.

IN Louisiana's oil diggin's a well had been drilled to 13,255 ft. The next step—cementing—looked like a nightmare. The operators had to cement a 7″ casing at 12,000 ft. and a short string of 5″ casing inside the 7-incher at the bottom. And bottom hole temperature was 297°! What would *you* have done?

The operators knew they couldn't take a chance with an ordinary cement. Too much was at stake. So they chose a cement they *knew* would stay easily pumpable all the way down that long, hot string... Unaflo Oil-Well Cement! And the result? Complete success! Unaflo again turned a tough one into just another job. The 7″ casing took 450 bags, and the 5″ took 125 bags of this easy-flowing, hard-setting cement with the retarded set.

Safeguard your well investment against lay-downs—use Unaflo, the *safe* oil well cement. It pays! Get the new book, "Oil-Well Cementing Guide." Write today on your business letterhead to nearest office of Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Amicable Building, Waco; Tulsa; Oklahoma City; Kansas City; Chicago; Birmingham.

Use Atlas High-Early for fast surface cementing!

▶ Here's the secret of speeding up surface cementing and saving money on rig time. Atlas High-Early gains strength several times faster than regular portland cement. Use it for surface and conductor pipe and also for rig foundations and cellars.

OG-U-13

UNIVERSAL ATLAS OIL WELL CEMENTS

Refinery Expansion

Skelly Announces Expansion Plans for Eldorado Plant

An expansion and remodeling program for its Eldorado, Kans., refinery has been announced by Skelly Oil Co., the work to cost in the neighborhood of $250,000. Of this total, approximately $150,000 will be spent in remodeling two Winkler-Koch cracking units. The remainder will be spent in expansion of gasoline-recovery equipment. The two cracking units will not be taken off stream until about November 1 on account of delay in delivery of equipment, after which about 2 months will be required for completing the work. Capacity of the Eldorado plant is 23,000 bbl. daily, with a cracking throughput of 15,000 bbl. daily.

Aurora to Install New Cracker at Detroit

CHICAGO.—Aurora Gasoline Co., which operates two refineries in Michigan, has signed a license agreement with Universal Oil Products Co. for a Dubbs two-coil cracking unit to be installed in the company's Detroit refinery. Construction is to begin at once. Aurora's Detroit plant is now running 3,000 bbl. a day of Illinois crude. Its other refinery, located at Elsie, Mich., is processing 2,500 bbl. of Michigan crude.

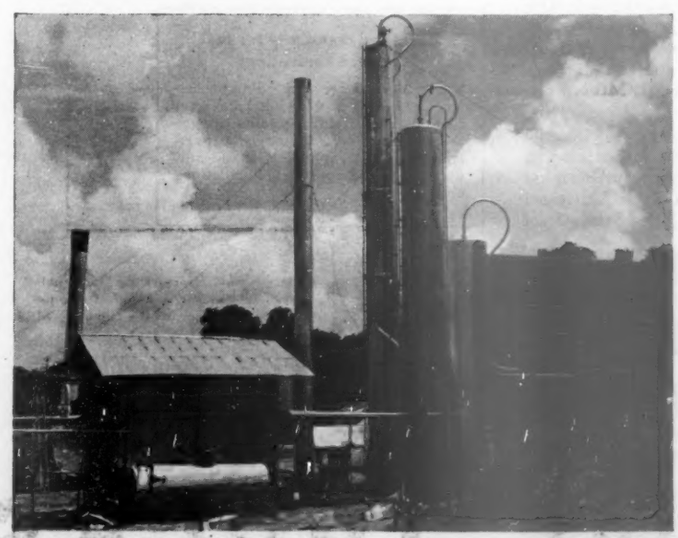
The cracking unit will have a rated charging capacity of 1,800 bbl. a day of topped Illinois crude. Provision will be made in the design for later conversion to a combination topping, cracking, and re-forming unit with a crude capacity of 4,000 bbl. a day. Contract for the work has been let to the Mid-Continent Engineering Co., Dallas, Tex.

E. C. Johnston Refinery Operations Near Plant Capacity

VICKSBURG, Miss., Aug. 13.—Before the close of this month the new 4,000-bbl. skimming plant owned and built here by E. C. Johnston is expected to be operating near its capacity. For the past month the plant has been running crude oil at an increasing rate, the crude being brought to the plant in tank cars from wells in the Tinsley field of Mississippi. There Mr. Johnston owns 550 acres. He has been taking the oil from wells located on this land and has been augmenting it with increasing quantities of oil bought from other producers in the field. Mr. Johnston lives in Longview, Tex., and is a drilling contractor.

The plant consists of a preheater, continuous treaters, pipestill, and a series of three bubble towers which permit unusually close fractionation of the crude into a low-endpoint motor fuel, tractor distillate, furnace oil, gas oil, and residual fuel.

The products are shipped by water, truck or rail, the city of Vicksburg providing a local market for some of the plant's output. Water shipments are being made along the Mississippi and Ohio rivers. Emphasis is being given the manufacture and sale of tractor distillate and furnace oils and the local market has been absorbing a large share of the output.



Part of distillation and exchanger equipment in the new E. C. Johnston refinery

Allegany Suspends Crude Purchases for 11 Days

BOLIVAR, N. Y.—Allegany Refiners, Inc., of Bolivar has announced an 11-day suspension of crude-oil purchases in the Allegany field. The Bolivar plant has a capacity of 1,100 bbl. daily and has been processing between 900 and 1,100 bbl. of crude daily. Low prices of products and lack of market for lubricating oil were blamed for the action. The suspension of purchases is in effect from August 10 to August 21, when producers will be told the amount of oil the refinery will take. Hans W. Walchli, general manager, who made the announcement, expressed hope the condition would not exist too long, "but we can see no relief for 4 or 5 months."

Natural Gasoline

Recycling Plant Construction Continues in East Texas

SHREVEPORT, La.—The 50,000,000-cu. ft. recycling plant of the Grapeland Oil Co., located in the Grapeland field, East Texas, was placed in operation last week. The plant with an estimated daily production of 60,000 gal. of condensate, brings the total number of plants in the Grapeland field to three.

In the Palestine area, a total of 10 recycling plants are now in operation. Their daily volume of gas processed totals 380,000,000 cu. ft. and daily production of gasoline, kerosene and other condensate products averages 375,000 gal.

At Long Lake, the Tide Water Associated Oil Co. and Seaboard Oil Co. operate the largest plant, capable of processing 60,000,000 cu. ft. of gas daily. Anco, Trinity and Hunt Oil Co. operate three other plants at Long Lake. In the Grapeland field, American Liberty Oil Co., Grapeland Oil Co., and Trinity-Lone Star Gas Co. have plants in operation and to the north in Cayuga, Tide Water and Seaboard operate two plants and Roeser & Pendleton have placed on stream a third recycling unit.

The Opelika field will furnish high-pressure gas for still another recycling project in the area. Lone Star and Shamrock Oil & Gas Co. are drilling two wells and will complete a third well in addition to the two already completed, to incorporate into a high-pressure plant system.

Skelly Expanding Plant Facilities at Burbank

Skelly Oil Co. has started work on its fifth plant in Osage County, Oklahoma, by transforming its old booster station 3 miles south of Shidler into a modern gasoline plant. The plant formerly moved gas from the Burbank and South Burbank fields to its other four plants. When the remodeling work is completed the Shidler plant will have a gas capacity of around 8,000,000 cu. ft. daily. Raw gasoline extracted at Shidler will be piped to the company's Lyman plant where propane, butane, and petroleum solvents will be removed. The 300-lb. residue from the Shidler plant will be moved into the South Burbank field where it will be used in repressuring work.

The company is also adding a new 100-ft. fractionating tower at its Lyman plant.

Natural-Gasoline Output Decreased During June

The production of natural gasoline decreased in June 1940, according to a report prepared by the Bureau of Mines, the daily average production in June being 6,161,000 gal., or 54,000 gal. less than in May. The principal declines were registered in the Panhandle, Oklahoma City, and Appalachian districts. Stocks continued to increase and the total on hand June 30 was 294,000,000 gal., or 20,412,000 gal. more than on the first of the month and 10,542,000 gal. more than on hand a year ago.

Production by states or districts, in thousands of gallons, was as follows: Appalachian, 4,597; Illinois, Michigan, Kentucky, 2,554; Oklahoma, 33,018; Kansas, 4,834; Texas, 71,994; Louisiana, 8,728; Arkansas, 3,000; Rocky Mountain, 8,137; and California, 47,980.

Shipments to jobbers increased from 14,448,000 gal. in May to 14,490,000 gal. in June while exports reported to the Bureau of Mines increased from 8,064,000 gal. to 8,778,000 gal. The average vapor pressure for shipments to refinery-owned bulk plants increased, while those for all other movements decreased. The weighted average for the month was 18.1 lb. compared with 19 lb. in May and 19.3 lb. in June 1939.

Natural Gas

Texas' Gas Production Shows Gain in June

AUSTIN, Tex.—Texas produced 4,097,479,000 cu. ft. of gas daily during June, a sharp increase over the output of 3,302,840,000 cu. ft. daily a year earlier, the Railroad Commission reported. June production also was slightly higher than the May average of 4,058,696,000 cu. ft. daily.

Pipe-line deliveries declined 2 per cent, dropping to 1,104,712,000 cu. ft., but three new recycling plants brought the total gas processed in recycling operations to 775,293,000 cu. ft., an increase of 9,000,000 cu. ft. over May. Carbon-black and gasoline-plant operations continued at about the same levels as in May as 1,286,069 lb. of carbon black and 2,210,057 gal. of gasoline were recovered daily.

Rate-Schedule Agreement Is Again Postponed

LITTLE ROCK, Ark.—An agreement between the Utilities Commission and the Arkansas-Louisiana Gas Co. on a lowered rate schedule for the company's 44,000 Arkansas consumers was again postponed last week after the gas organization had asked additional time to study proposed rates. J. C. Hamilton, Shreveport, La., rate engineer for the company, has advised Thomas Fitzhugh, commission chairman, that more time was needed for a study of a rate schedule proposed by the state commission.

Service on Active Fields

Dales Field, Hamilton County, Illinois

Compiled by The Oil and Gas Journal

Approved name

Dales.

Geographic location

The field is located in southeastern Hamilton County, about 9 miles from McLeansboro, the county seat. It is 10 miles west of the Stokes pool in White County, and 10 miles west and 4½ miles north of the Irons pool, also in White County. Dales is the first area to produce in Hamilton County.

Principal cities and towns

McLeansboro is about 9 miles northwest from the field, and has a population of approximately 3,000. Mount Vernon, Ill., county seat of Jefferson County, is 36 miles distant, and has a population of 15,000. Centralia is 61 miles and Salem is 58 miles from the field.

Highways and roads

State Highway 142 passes through the town of Dales. This highway is of concrete construction and is in excellent condition. To get to the field, turn east at Dales, go 1 mile, and then turn north and go about 2 miles.

Railroads serving the area

The town of Dales is located on the L. & N. Railroad from Centralia to Evansville, Ind.

Supply company branches

Supplies for work in the area are obtained in Salem, Centralia, and Carmi, towns where all of the leading supply companies have sufficiently large stocks to satisfy requirements.

Trucking companies

Oil-field trucking firms maintain headquarters in Salem, Centralia, and Carmi.

Hotels and accommodations

Satisfactory accommodations are lacking in the immediate vicinity of the field and consequently more distant towns are used for headquarters. Mount Vernon, Ill., has the best facilities.

Schools and churches

Mount Vernon has ample public and parochial schools and has a large number of churches. McLeansboro has a good school system and a large number of churches for a community of its size.

Electric power and gas companies

Ample electric power is supplied at fairly cheap rates. Gas is available but is expensive. Coal is used mostly for heating as it is one of the principal products of the area.

Development to date

The Dales pool was opened by the Kingwood-Exchange, 1 Wilson, NW NW SE 6-6s-7e, Hamilton County, on March 20, 1940. It had a Cypress sand pay at 2,672-97 ft., with shows in the Benoist at 2,862-87 ft., Aux Vases at 2,962-89 ft., and McClosky at 3,020-52 ft. The three latter formations carried water. The well was carried to a total depth of 3,213 ft., which gave a fair test of all formations down to the St. Louis lime. The hole was then plugged back to 2,695 ft. for a test of the upper Cypress pay, which after a 10-qt. shot from 2,690-95 ft., had an initial production of 115 bbl. in 24 hours. Subsequent drilling has shown that the pay horizon of the upper Cypress formation is a lensing condition, the sand shaling out toward top of the structure, with production in Section 6 and the north quarter of Section 7, Township 6s, Range 7e. No extreme extensions have been made in the area, but the field has spread location by location each direction from the discovery well.

Geology

The Dales pool was discovered on the trend ahead of the central basin structure. The structure was formed probably as a result of cross folding between the above line of flexure and the Sorento-Centralia flexure. Subsurface data on the coal revealed a broad structure in this area and it was finally delineated by seismic work done for Kingwood Oil Co. by the Seismograph Service Corp.

Present producing horizon is the Cypress formation. At the present time Kingwood Oil Co. has four producing wells on the Dodd lease and four on the Wilson lease, Pure Oil Co. has three producing wells on the Cuppy lease, Ohio Oil Co. has three producing wells on the Wilson lease and the Texas Co. has pipe set for its No. 1 Davis. There are three additional locations in the field.

Number of operations

Shell, Kingwood, Ohio, and Texas Co. each had a well drilling during the week beginning July 22.

Lease ownership

Ownership of the leases in the one section which has been proven productive, 6-6s-7e, is as follows: Kingwood, 220 acres; Shell, 80 acres; Ohio, 80 acres; and Pure 260 acres. Kingwood, Shell, Carter, Texas, and Pure own the leases in surrounding sections but most of the farms are quite small; there are no open leases in the immediate vicinity.

DRILLING CONDITIONS

Derricks

Rotary derricks, from 84 ft. with 20-ft. bases to 122 ft. with 25-ft. bases are used. Substructures are wooden.

Types of drilling equipment

Medium-sized drilling equipment such as is used in the Illinois basin for drilling to 3,000-4,000 ft. is being used in this pool. Traveling blocks and rotary tables are of moderate size. Some operators use 3½-in. and others use 4½-in. drill pipe. The typical power setup is to use two 125-hp. diesel engines connected in tandem.

Speed and ease of drilling

From 13 to 20 days generally are required to rig up and complete a well pumping. Seven to ten days' drilling time usually is required to drill to the top of the Cypress sand. Complete cost of a well on the pump, including tankage will run about $10,000. Contract prices for rotary drilling are from $2.50 to $2.75 per foot.

Number and type of bit used

From 10 to 12 roller-bearing rock bits of the latest type are used. First four bits have cones for medium formations while the bits run in the latter part of the hole have cones designed for medium-hard formations.

Completion methods

Several wells have been completed by drilling through the Cypress sand, taking an electrical survey and setting pipe on top of the pay. Others have topped the pay with rotary and drilled in with cable tools after running pipe. The Kingwood Oil Co., 1 Morris

found saturation in the McClosky, Rosiclare, Benoist, and Cypress. Casing was set through all pays with drillable pipe opposite the Benoist and Cypress sands. The McClosky was gun perforated but made water. The well was then plugged back to the Rosiclare and perforated there. The sands will be tested later.

Size of casing, tubing, and rods

Both 7-in. o.d. 20-lb. pipe and 5½-in. 14-lb. pipe have been used for casing; it is generally set to around 2,650 ft. Tubing used is either 2 or 2½-in. E.U.E. Either ⅝ or ¾-in. rods are used depending on the tubing size. Around 110 ft. of 10¾-in. surface casing is run at the start of the wells.

Hole size

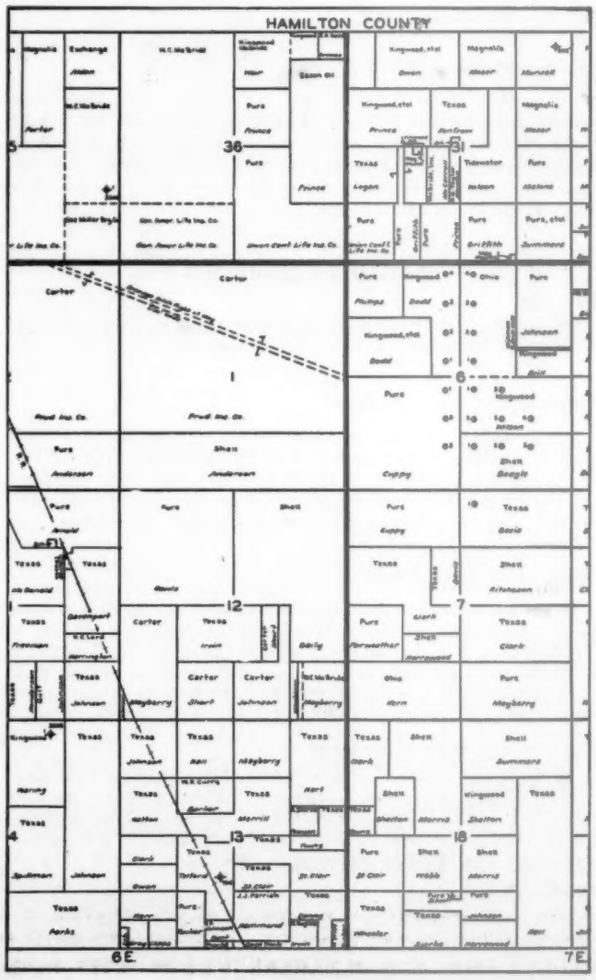
Size of hole varies with casing to be run. For the larger size casing, 8¾-in. hole is drilled; for the smaller casing, 7-in. hole is drilled.

Drilling mud

Principal difficulty in the area has been the encountering by some wells of an artesian-water sand. Mud is heavied with Aquagel and Baroco to overcome this trouble. Generally less than 200 sacks of mud are required for each well. Mud at casing time generally weighs 10.1 to 10.2 lb. per gal. with a viscosity of 40 to 42 sec. A.P.I. funnel.

Acid treatment

The No. 1 Morris was acidized with 2,000 gal. in the Rosiclare when the well was completed. Production increased from 60 to 150 bbl. per day on swab test.



Map of Dales field, Hamilton County, Illinois

Size of shots

The Cypress is shot with 10 to 40 qt. of nitroglycerin. The usual tamp is a good grade of sand. Production declines have been unusually rapid where the wells were not completed with a glycerin shot.

PRODUCTION PRACTICES

Method of producing oil

All wells are on the pump although the Morris well flowed initially. Common working barrels and various plunger-type pumps are used, sizes and makes varying with the operators.

Pumping units

Wells are pumped by individual twin-crank pumping units having a polish-rod load capacity of 10,000 to 14,000 lb. These are generally driven by a 25-hp. internal-combustion engine.

Tankage

Some 210-bbl. welded tanks and some 500-bbl. bolted tanks are in place. Usual practice is to use one separator to each tank battery. There has been no need as yet for heaters to treat the oil.

Water conditions

A sandy shale, separated from the Cypress by a pure shale, carries water. In at least one well it is found at the base of the pay sand and is the probable source of water trouble in that well.

GENERAL DATA

Spacing

Wells are being drilled on 10-acre tracts. Low recoveries may dictate wider spacing for future development of the field.

Pipe-line outlet

The Compton Crude Oil Purchasing Co. plans to lay a pipe line to the field. At present all operators are shipping oil by tank cars from loading racks at Dales.

Crude-oil analysis

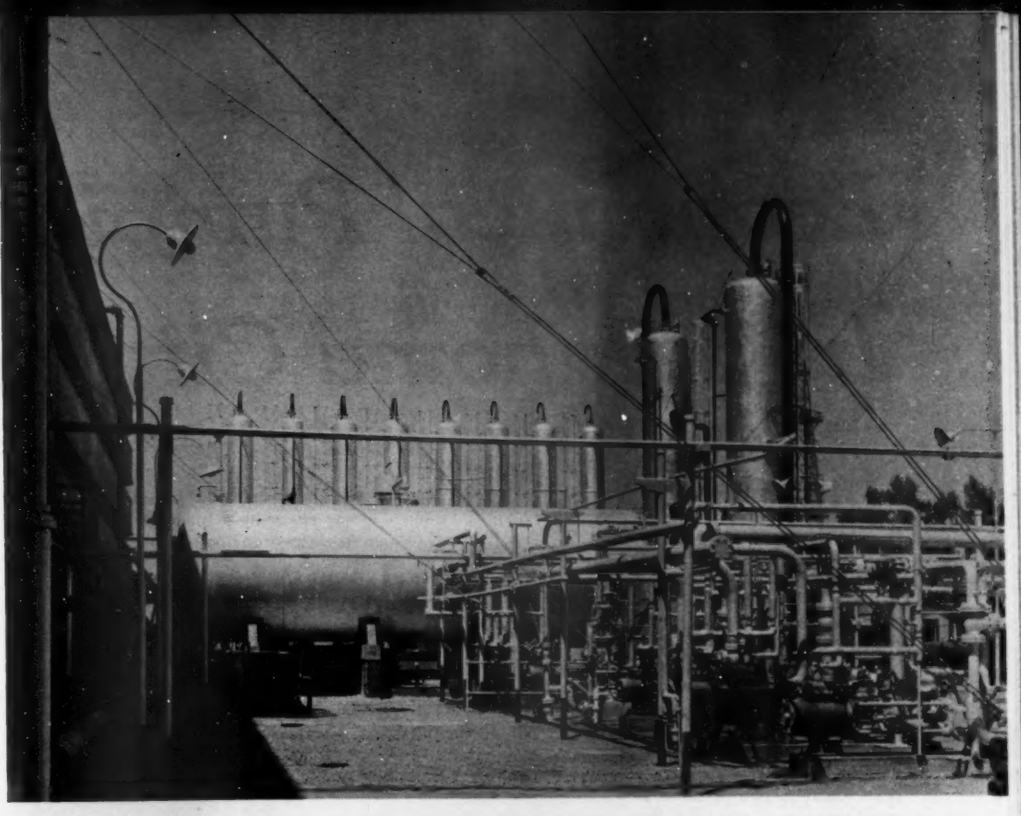
On analysis of the crude produced by one well is as follows:

Preliminary tests:	
Gravity, °A.P.I.	39.0
B.s. and w., per cent	0.4
Sulfur, per cent	0.12
Color	Black
Cold test, °F.	—20
Fire	Instant
R.V.P., at 100° F., p.s.i.	5
Mercaptan sulfur	0
Salt content (NaCL) lb./1,000 bbl.	34.212

Viscosity, Saybolt Universal—	
100° F.	40
90° F.	42
80° F.	44
70° F.	47
60° F.	50
50° F.	55
40° F.	61
30° F.	69
20° F.	80
10° F.	97
0° F.	120

Commodities—	Gasoline	Kerosene	Ch. stock	Residuum	Loss
Per cent	33.0	3.0	44.0	19.0	1
Gravity	59.3	41.0	33.8	14.0	..
Flash	...	150	180	370	..
Fire	...	170	210	450	..
Color	30	...	...	Black	..
Doctor	Sour	...	...	...	..
Sulfur, per cent	0.02	0.06	0.113	0.23	..
Vis. at 210° F.	...	...	...	234	..
Octane No.	58.0	...	...	...	..
Distillation:					
I.B.P.	138	380	410	...	..
10 per cent	182	416	460	...	..
20 per cent	204	426	506	...	..
30 per cent	222	438	542	...	..
40 per cent	240	448	570	...	..
50 per cent	258	458	600	...	..
60 per cent	274	472	632	...	..
70 per cent	292	486	676	...	..
80 per cent	324	516	706	...	..
90 per cent	354	568	740	...	..
End point	408	616	788	...	..
Recovery	98	98	98	...	..
Residue	1	1	1	...	..
Loss	1	1	1	...	..

Gasoline blended with 15 per cent natural plus 3cc. T.E.L. Octane No. 75.0.



Increased demand for liquefied petroleum gas in domestic and industrial use, and for specialty products such as isobutane and solvents, tends to place many natural-gasoline plants in the category of a "refinery" rather than a plant for extracting natural gasoline. This view shows a portion of Superior Oil Co.'s Kettleman Hills plant, recently revamped for making isobutane, that is described on Page 50 of this issue

ENGINEERING & OPERATION

AUGUST 15, 1940

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SUPERIOR MAKING ISOBUTANE AT KETTLEMAN ABSORPTION PLANT
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Superior Oil Co. has installed butane and isobutane-extraction equipment at its Kettleman Hills plant, incorporating several features not generally used in the natural-gasoline industry. In addition to butanes recovered, the plant's gasoline yield was increased 6 per cent.

CITIES SERVICE PLANT OPERATING UNUSUALLY SAFE TRUCK RACK
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PRODUCTION TESTING OF SEISMOMETERS
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Use today of as many as 60 seismometers on each setup, 3 per trace for each of 20 channels, makes their testing more difficult. Procedure for testing on a quantity-production basis is described.

2,930 FT. OF WELDED CASING RUN IN KANSAS WELL IN SEVEN HOURS
By Harry F. Simons ..... Page 61
One company on a well in the Hall-Miller area of Russell County, Kansas, recently ran 2,930 ft. of 8-in. welded casing in 7 hours' elapsed time, using 40-ft. joints and running two heads.

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Economical Pumping of Wells In Oklahoma City Field

By T. P. SANDERS

NOT so many years ago it was being predicted freely that operators would not be able to pump the Oklahoma City field economically. The depth of 6,500 ft. was believed to be too great; and sand troubles, gas lock, and water encroachment were expected to greatly increase the difficulties. Today it is interesting to note that all but a few of the wells are being pumped, and often for a small daily production.

The greatest pumping problem has been sand production, with gas lock giving trouble over a long period in the early pumping life of most wells. Water production has been very small, with a large portion of the wells still producing pipeline oil. Water of a severely corrosive nature has been found in two or three wells in widely separated portions of the field. This water, which carries hydrogen sulfide, is believed to be very limited in extent.

Sand Troubles

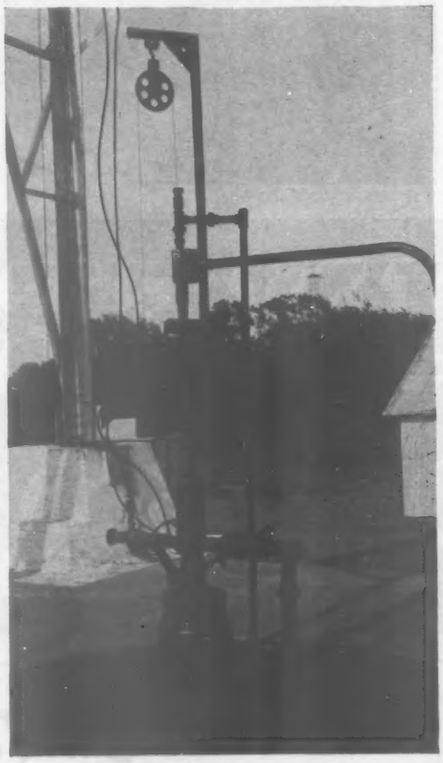
At the present time unusual measures are being adopted in some wells for prevention of sand troubles. Throughout the life of the Oklahoma City field the producing practice in regard to sand has been almost directly opposite from common practice followed in California and on the Gulf Coast. In the latter areas liners and screens are installed in all wells, but in Oklahoma City, production of sand has generally been preferred. This difference has in the past been due primarily to dissimilar strata conditions. Now, however, screens are being introduced in the Oklahoma City field in order to improve pump operation.

In several wells prepacked gravel liners have been installed. These are made up of slotted pipe around which is a wall of gravel held in place by heavy steel-wire screen. Unslotted intervals are left at the ends of each joint to provide for tong and elevator space, and these blank intervals are, of course, left uncovered. The required number of prepacked joints for the thickness of productive sand can be delivered at the well ready for assembling, but in order to save transportation costs the gravel pack is often made in the form of a sleeve with steel-wire screen both inside and out. These sleeves are 8 ft. in length or shorter and have steel rings at each end so that they can be slipped over the slotted pipe and welded together.

No special tools are required to assemble or run the gravel-packed liner joints, provided that sufficient unslotted and uncovered space is left above and below each casing coupling for casing tongs, elevators, and slips. The assembled liner is hung and packed off in the casing shoe, and the bottom is closed either by a set shoe or by welding. The hole is cleaned out before running the liner.

Characteristics of gravel used in a prepacked liner are highly important. It should consist predominantly of round particles. United States standard sieves are used for sizing. The two sizes most commonly used, 0.0937 to 0.132 and 0.132 to 0.187 in., have successfully met a wide range of producing conditions. These sizes are generally known as 6-8 and 4-6. Experience indicates that the gravel size selected should be 13 times the size of the 10 per centile grain size of the oil sand. This refers to diameters as determined by Tyler screen tests. A screen analysis is made of the oil sand. The 10 per centile grain size is larger than 90 per cent of the grains but smaller than the other 10 per cent of the grains. If the 10 per centile grain size is 0.010 in. the gravel used to control this sand should be approximately 0.132 in. in diameter.

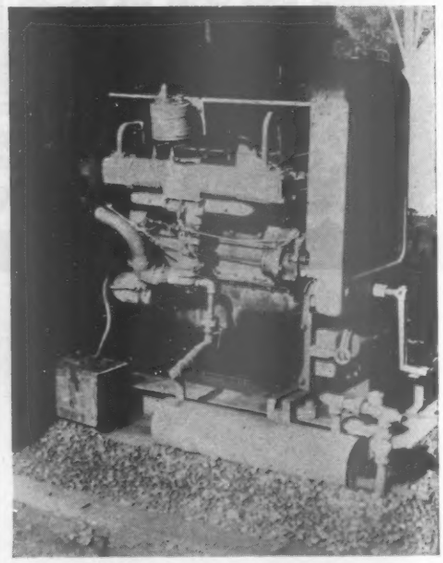
Prepacked gravel liners are most successfully cleaned by reverse circulation through them. Swabbing or the use of a suction bailer is also effective.



The light wire line on the pulley above is used for pulling a paraffin scraper to clean the small string of tubing which conducts power fluid to the hydraulic pump at the bottom of the well. All paraffin deposition occurs near the surface in Oklahoma City wells

Sand Anchor

One company reports good results in reducing sand troubles in a beam-pumping well through the use of a sand screen which somewhat resembles a gas anchor. Into the standing-valve intake at the bottom of the pump a 1½-in. section of slotted pipe is screwed, and this is usually called the "skeeter" bill. Concentric with this small pipe a bull-plugged length of slotted 3-in. is screwed onto the bottom of the pump holddown. The annular space between the concentric slotted pipes is fitted with wire mesh which holds lead shot in place. The lead shot is selected for size on the same basis as described above for gravel. With this arrangement sand is strained from the oil just before it enters the pump intake. Since this anchor is used with an insert-type pump, the sand screen may be cleaned by merely raising the pump from its seat so that the fluid head in the tubing will flush out the shot screen. Since the well fluid only travels about ⅛ in. through the shot bed, not enough resistance has been offered to fluid flowing into the pump intake to intensify gas-lock



Exhaust manifolds on the prime movers for hydraulic pumping systems are water-jacketed. The jacket water from the engine is circulated through the treating tank where it heats the power fluid to facilitate filtering

Great care is exercised in handling pumps by most companies, both in the central repair shops and in the field. Above a special truck rack is shown which makes it possible to tie the pump inside a rigid pipe, to prevent its being damaged, while hauling to the well

troubles in wells so far equipped with screens of this kind.

Pumps for Sand Conditions

Metal-to-metal pumps are used almost exclusively in the Oklahoma City field, but one company has installed a plunger which uses combination rubber and fabric rings mounted in machined grooves. After the rings have been fitted to the grooves the plunger is dipped in kerosene. This causes the rings to swell so that by the time the plunger enters the working barrel a snug fit is brought about. The number of rings used is dependent on depth of the well. Tested in other fields, these plungers proved best suited for wells producing water and sand. Water acts as a lubricant for rubber, a fact which is most readily realized when an automobile skids on a wet street. In wells where the per cent of oil in the fluid is insufficient for proper lubrication, the rubber rings offer an effective seal with a low coefficient of friction. Rubber being flexible is also resistant to sand abrasion. Only a small edge of the rings protrudes from the machined grooves, and the remainder of the ring expands so that it is held tightly in the groove. Oil in the well fluid attacks only the exposed edge of each ring, and this causes enough swelling to maintain a tight fit against the working barrel. When the rings become worn too small for swelling to produce a satisfactory fit, they are replaced. The plunger itself does not come in contact with the working barrel, so it is used with several sets of rings.

Pump Spacing

The modern practice of stroking through the entire length of the barrel so that the plunger emerges at both ends, is not adaptable to the Oklahoma City field as a rule. In many pools this practice has been helpful in lowering pumping costs because it promotes even wear in the barrel and prevents deposition of "gyp" in the ends of the barrel, thus making it possible to run a new oversized plunger without replacing the barrel when slippage becomes too great. In the Oklahoma City field, however, this practice is unsuccessful. The extension nipples at both ends of the barrel, which are of slightly larger inside diameter than the barrel, act as accumulation points for sand and this has resulted in sticking of the plunger in many instances. Therefore a practice is usually followed in which the ends of the plunger never emerge from the working barrel during pumping. The ends of the plungers are usually designed so as to furnish no place for sand to lodge, and grooved plungers are usually avoided because of the possibility that sand may accumulate in the grooves.

It has been stated that the greatest improvement in sucker-rod pumping at Oklahoma City took place when tapered strings were made up with 1-in. rods at the top. These stronger rods, together with the use of dynamometer tests to avoid the more disastrous pumping speeds and loading conditions, resulted in a 50 per cent decrease in rod breakage on some leases. Present work on reduction of rod breakage emphasizes rod selection. One company reports excellent results due to giving careful attention to heat-treatment numbers. The well-servicing records show the heat numbers for each group of rods purchased, and at the time of each break a note is made of the heat number of the broken rod. Without giving any special consideration to the metallurgical significance of the heat-treatment numbers, the rods are compared on a performance basis. If rods of one number perform badly, all rods of that number are retired systematically to lighter service during the course of well-servicing operations. No rods are bought as complete strings but portions of each string are replaced as it becomes expedient to do so. Samples from broken rods are sent to the metallurgical department for examination, and the laboratory findings for each heat-treatment number are checked against the field experience. These data contribute materially toward future selection of rods.

Where "gyp" or cement has lodged on the threads of tubing it is removed with the thread chasers shown here. Since wells have often been abandoned because they would not justify the purchase of a needed string of tubing, well life and therefore employment can be increased by proper care of tubing

Rod Rotators

In some wells extreme wear of sucker-rod couplings is experienced due to the couplings rubbing against the tubing while being lubricated by sand-laden fluid. It is assumed that the wells which were drilled crooked or which contain sharp kinks are most troublesome in this respect. One company is combating rod abrasion in wells of this type by installing rod rotators at the beam hangers. The string of rods is supported on a swivel, and at the end of each down stroke a wire line hitched to the walking beam operates a rachet upon a notched disk, thereby turning the rod string several degrees. In this way the wear is evenly distributed around the string of rods, and there is less opportunity for abrasive action to start.

Gas Anchors

Since the benefits to be derived from the installation of a gas anchor are always purely conjectural, the most important point in the design is thought to be large capacity so that they will not be detrimental by restricting flow to the pump intake. Thus, while the gas anchor may accomplish nothing in many cases, its inclusion cannot be objectionable.

A mechanical gas anchor or oil-and-gas separator is used in a number of Oklahoma City wells. Under the low pressure inside of the gas anchor the solution gas is liberated by mechanical agitation through the use of a series of "breakers" mounted on sensitive coil springs. Motion for the operation of the mechanical gas anchor is contributed by movement of the tubing, which rises and falls to some degree with the upstroke and downstroke of the sucker rods. Since the anchor is attached to the bottom of the tubing or to the pump, this motion causes vibration of the "breakers" and the coil springs. Gas set free by the vibration is permitted to escape before entering the standing valve.

Sucker-rod load cushioning equipment has established itself solidly in Oklahoma City field pumping practice, and this equipment is often credited with noteworthy reductions in rod breakage.

Greater care of tubing calls for cleaning each joint with a special set of thread brushes. The device is slipped over the threads and turned to remove all abrasive particles

Hydraulic Pumping

Conspicuous improvements have been made in recent years in operation of hydraulic pumps in the Oklahoma City field. In simple terms this pumping method consists in operating a surface power pump to deliver power oil to a subsurface hydraulic engine which in turn actuates a direct-connected production pump. Discharge from the hydraulic engine and pump come to the surface together. For a detailed description and reference data concerning this production system the reader is referred to Pages M-4 to M-7 of the Producing Equipment Directory.

Perhaps the greatest improvement in hydraulic pumping-plant operation has been the use of waste engine heat for heating power oil. The power oil for operating the pump is conditioned from the production fluid. In conditioning this fluid it is necessary to remove any water which may be present and also to filter out the sand

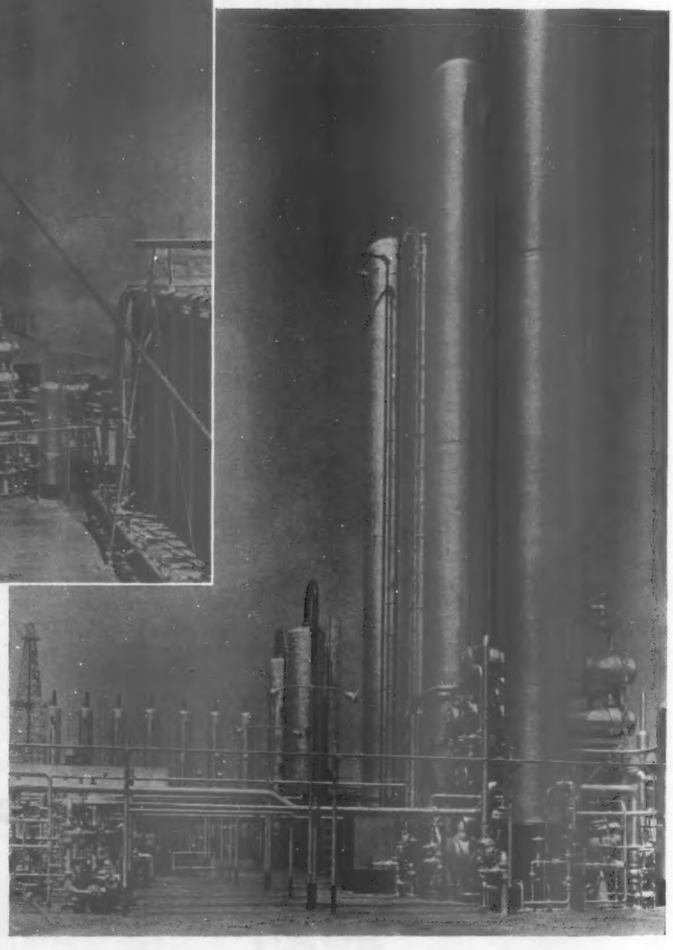
(Continued on Page 63)

Superior Making Isobutane at Kettleman Absorption Plant

By L. P. STOCKMAN

Conventionally designed gasoline plant modernized for recovering commercial isobutane, thereby enabling better control of other phases of plant operation.

General view of Kettleman Hills plant yard showing compact layout of processing equipment



View of absorption towers, stills, stabilizer and towers for extracting butane and isobutane cuts

SUPERIOR OIL CO., one of California's largest independent oil producers, recently completed modernizing its Kettleman Hills gasoline absorption plant which was originally installed and placed in operation during October 1930. This original conventionally designed gasoline plant produced principally only that vapor-pressure gasoline demanded to meet sales requirements and such butane-propane mixture possible to produce in excess of the butane necessary for the gasoline specifications, of which there was little or no excess during warm weather. This company, in modernizing the Kettleman Hills absorption plant, installed the first commercial isobutane unit in connection with such a plant. This plan involved several engineering features common to the oil industry, but not generally used in the natural-gasoline industry, which were as follows:

1. The installation of a unit consisting of debutanizer and deisobutanizer columns operating in conjunction with the original stabilizer column converted to a depropanizer.

2. A propane-refrigeration unit operating under automatic pressure control, maintaining, irrespective of atmospheric conditions, the minimum temperatures desired on the absorption oil and wet gas before entering the absorber.

3. Single-unit forced-draft cooling tower operating in conjunction with the atmospheric tower, to function during such calm or humid atmospheric periods as frequently occur, providing positive cooling for the propane condensate and reflux which under this plan are the yardsticks of efficiency.

The above installations, when operating in conjunction with an absorption plant of considerable size and with a slight margin of capacity throughout the plant available for increased oil circulation and vapor load, present several inherent advantages in operation and revenue. These are as follows:

1. The simplifying of control over efficient and uniform operations resulting in the production of gasoline of given specification with a minimum of loss or variation.

2. The centralizing of attention in the propane-refrigeration unit as a means of minimizing fluctuations in other phases of plant operation.

3. The enhanced value of the gas processed through the maintaining of the optimum yield of gasoline, in this case an increased production of approximately 4 per cent during the winter season and 8 per cent during the summer season, or a 6 per cent average for the year, besides the yield of other hydrocarbons either in a relatively pure state or blended as desired.

The Kettleman Hills absorption plant of Superior Oil Co. was originally designed and constructed to handle approximately 100,000,000 cu. ft. of 450-lb. gas (with a gasoline content of 1 gal. per 1,000 cu. ft.), together with 7,000,000 cu. ft. of 60-lb. gas, with a stabilizer capacity of 125,000 gal. per day of finished gasoline of 21.9 lb. R.v.p. At times the plant has approached near capacity; however, at this time producing approximately 55,000 gal. of gasoline per day, there

is being processed about 50,000,000 cu. ft. of high-pressure gas per day and only that volume of low-pressure gas sufficient to meet the various operating fuel requirements. Storage facilities for natural gasoline consist of a battery of twelve 20,000-gal. horizontal storage tanks and standby storage of two spheroids, each with a capacity of 400,000 gal., or a total storage capacity of approximately 1,000,000 gal.

Compressor Station

Operating in conjunction with the absorption plant is an 18-unit gas-engine-driven compressor station, which required no alteration since most of the plant changes were concerned with increased efficiency in the absorption plant to recover gasoline and lighter hydrocarbons and the subsequent fractionation of these. All compressors are equipped with air-cooled mufflers, the application of which eliminates the use of water as a cooling agent and increases the efficiency and operating status of engines and compressors. Originally this compressor plant contained two horizontal vapor compressor units, but additions were made from time to time to meet declining pressure conditions within the field to the extent that there are now a total of eight 180-200-hp. units, eight 300-hp. and two 225-hp. units. The latter two units are used for gas-lift purposes and the two horizontals as vapor units. As auxiliary units, there are two 200-hp. at 1,800 r.p.m., each directly connected to two water pumps to handle the open and closed-circulation systems. All the main compressor units are operating on two stages of compression without intercoolers.

Of the total gas processed in the absorption plant, 20,000,000 cu. ft. to 25,000,000 cu. ft. is compressed daily to approximately 465 lb.; the remainder of the total processed is delivered from

Portion of propane refrigeration equipment which operates under automatic pressure control to maintain desired temperatures on absorption oil and wet gas

both high-pressure production and from outside sources. All condensate so produced and collected is used as reflux in the still. In the fall of 1939, Superior's Kettleman Hills plant was remodeled, including installation by C. F. Braun of an isobutane and butane unit, for the purpose of maintaining a more constant yield of gasoline and also to produce *n*-butane, isobutane, and propane. In order to do this the actual absorption plant gas and gasoline daily capacity was reduced respectively to approximately 80,000,000 cu. ft. of gas and 85,000 to 90,000 gal. of gasoline. Of the original battery of five high-pressure absorbers, one was converted to a 200-lb. reabsorber for the purpose of treating compressed uncondensed vapors.

Oil circulation was increased to slightly better than 740,000 gal. per day as compared with 540,000 gal. previously. Two 225-hp. 6-X.V.G. Ingersoll-Rand compressors were installed to handle the uncondensed vapors and to discharge into the main gas line excess vapors from the depropanizer, consisting chiefly of propane with ethane in small varying proportions. The original stabilizer, capable of 250-lb. working pressure, was converted into a depropanizer to operate at about 240 lb., to which was fed unstable gasoline for complete depropanization. A second column was installed for the purpose of debutanizing the gasoline delivered from the depropanizer in order to meet whatever vapor pressure requirements. The overhead from this second column is fed to the third column (isobutane tower) from which normal butane is collected from the bottom with a purity of ±98 per cent. From the top of the column the isobutane is then condensed with a purity of 96 to 98 per cent, containing 2 to 2½ per cent *n*-butane and a trace to 1 per cent of propane.

The original fractionating column, now a depropanizer 60 in. in diameter and carrying 40 trays, is operating in conjunction with a debutanizer of the same dimensions and finished gasoline capacity while the third or isobutane column, 48 in. in diameter carrying 45 trays and 85 ft. high, has a capacity of 14,000 to 15,000 gal. of isobutane per day. Although this column is very sensitive to operate, it produces a very fine cut between the *n*-butane and the isobutane.

Between the fractionators are the reboilers and condensers, while directly behind are mounted the liquid accumulators for the butane and isobutane and directly opposite these columns are all necessary pumps. Since an abundance of butanes, desired as feed for these columns, were originally retained in the absorber discharge gases, it was necessary to step up absorption efficiency of the plant as much as possible. This was accomplished by a redistribution of gas through the eight available absorbers, with special attention being given to the low-pressure gas and reabsorber intermediate-pressure gas. The oil rate in order to partially effect such efficiency was increased approximately 35 per cent. To consistently further increase this recovery of gasoline and butane fractions, a propane refrigeration cycle was installed for the purpose of providing a satisfactory constant temperature on the gas and lean oil to the high-pressure absorbers. Oil to the low pressure and reabsorber is not cooled by refrigeration. Storage facilities for such byproducts in addition to the three 16,000-gal. isobutane tanks consist of two 16,000-gal. butane-propane tanks and one 16,000-gal. *n*-butane tank.

Refrigerating Unit

In order to enhance operation of the refrigeration unit, which was installed by the Fluor Corp., a third 225-hp. compressor was installed adjacent to the two compressor units mentioned above, all of which are located between the absorbers and fractionators so that the transmission lines may be as short as possible, particularly those carrying the refrigerating medium. This third compressor, operating with an intake pressure of 25 lb. and discharging at 185 to 200 lb. (depending upon the percentage of ethane entrained), is for the purpose of compressing the expanded propane vapors, which through a closed system, have chilled the oil and gas. Back-pressure regulators and not temperature controllers maintain the quantity and pressure of propane to be expanded relative to the thermal variations of the incoming gas and oil, which enable the establishing and holding of the final temperatures at any desired point.

Under conditions of average atmospheric cooling during the summer months, the gas and oil enter these chillers from 80° to 100° F. Under favorable atmospheric conditions it is not necessary to operate the refrigeration unit except during those periods when there is a calm, which frequently occurs during the early morning hours. The after-cooling of the residue gas, for the purpose of meeting specified temperature limits before entering the the main gas transmission line, was materially aided by improvement in the removal of any moisture entrained in the gas.

Vapors, vented from the raw-gasoline accumu-

New forced-draft cooling tower added in conjunction with the isobutane unit, with the revamped 60-bay atmospheric tower in the background

lator, were previously directed to a reabsorber operated at 25-lb pressure. With the increased absorption effectiveness the volume of vapors was materially enlarged. They are now dispatched to two 225-hp. recompressors, operating with an intake pressure of 20 lb., and, after cooling, are discharged to a reabsorber operating at 200-230-lb. pressure. The two vapor recompressors and refrigerating compressor are housed together with such engineering principles as the medium of pilot-operated governors, vaporproofing of ignition, etc. Utilization of such governors makes it possible to set and maintain the intake pressure at any desired point, control being effected by

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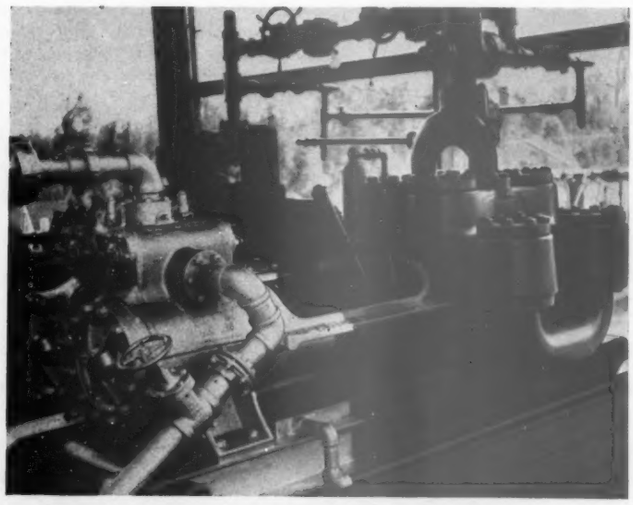

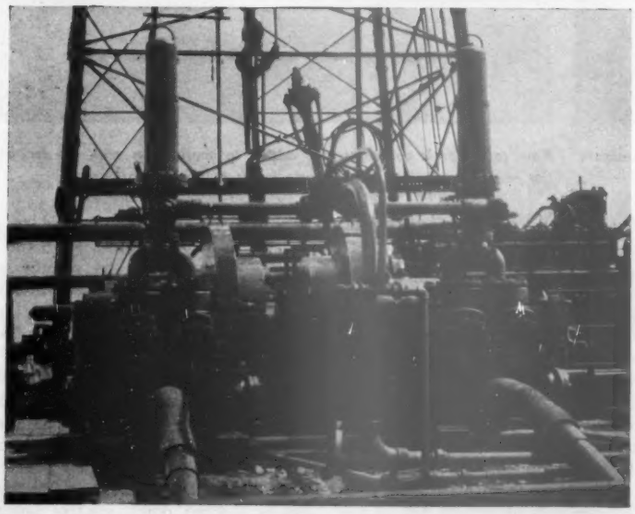

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the speed of the engines with the governors reacting to pressure deviations.

Condensate from the cooling of recompressor vapors is pumped directly into the discharge line of the gasoline feed pumps which take suction from a 20,000-gal. raw-gasoline surge tank. The combined stream serves as the charge to the first fractionating column, or depropanizer. Here, with a bottom temperature of from 271° to 275° F. and a column pressure of 240 lb., the propane cut is made, leaving the isobutane and heavier fractions, flowing from the base of this column to the debutanizer. The successful operation of the succeeding stabilizers depends on the exacting performance of the depropanizer which in turn is dependent upon a uniform refrigeration performance. Despite the fact that the distillation temperature in the propane cut may vary more than in other separations, close attention is necessary to assure perfection of the cut, due to the fact that the following columns are total condensation fractionators. The smallest quantity of propane remaining in the discharge stream of the depropanizer is sufficient to disrupt the pressures of the following columns, virtually prohibiting separation of pure products.

In order to further enhance complete removal of all propane, the feed is admitted at the twenty-seventh tray, although satisfactory operation had previously been secured by feeding between the fifteenth to twenty-first tray. Top temperature of the depropanizer, when retaining all the isobutane, varies between 105° and 110° F. and is a function of the pressure, bottom temperature and composition of the feed. Liquid propane is utilized as a reflux, suction being taken from the accumulator of the condensed overhead vapors with the surplus going to storage for sale as propane after being relieved of entrained ethane or being compressed and discharged into the main gas line.

All gasoline fractions leaving the first column, propane free, enter the debutanizer where the finished gasoline, rectified to ±21.9 lb. R.v.p., is taken off the bottom. All of the isobutane and surplus *n*-butane leave the top of this debutanizer column and are condensed in a shell-and-tube heat exchanger using water as the cooling agent. From the accumulator this fluid is pumped over the debutanizer as a reflux with the excess quantity making up the feed to the isobutane column. The debutanizer is controlled with a temperature of 217° F. and a pressure of 94 lb. to yield 21.9 lb. gasoline.

The isobutane column operates with a temperature of from 148° to 151° F. and a pressure of 115 lb. Here, where the sharpest cut must be made, the temperature is controlled from a thermometer well placed midway up the column. The isobutane is taken from the top, condensed in a shell-and-tube cooler and used as reflux, 10-11-to-1 ratio, with the surplus going to storage. The *n*-butane leaves the base and goes to three 16,000-gal. storage tanks, two tanks being set aside for butane-propane blend and one for *n*-butane. Long-stroke mim.-type steam-driven reciprocating pumps are used to move the reflux and feed for all columns, and also shipments of gasoline.

ANALYSIS OF THE DIFFERENT RESIDUE DRY GASES INDICATING DEGREE OF STRIPPING

	High pressure (per cent)	Residue, 22-lb. Reid (g.p.m.)	Reabsorber, 200-lb. vapors (per cent)	Low pressure (per cent)
Air	Nil	....	Nil	Nil
CO_2	0.10	....	0.10	0.20
CH_4	87.32	....	76.78	83.16
C_2H_6	7.86	....	22.75	11.80
C_3H_8	4.42	....	0.33	4.56
$C_4H_{10}I$	0.16		0.01	0.13
$C_4H_{10}N$	0.13	.0026	0.01	0.06
$C_5H_{12}+$	0.01	.0035	0.02	0.09
	100.00	.0061	100.00	100.00

Operation of Steam Stills

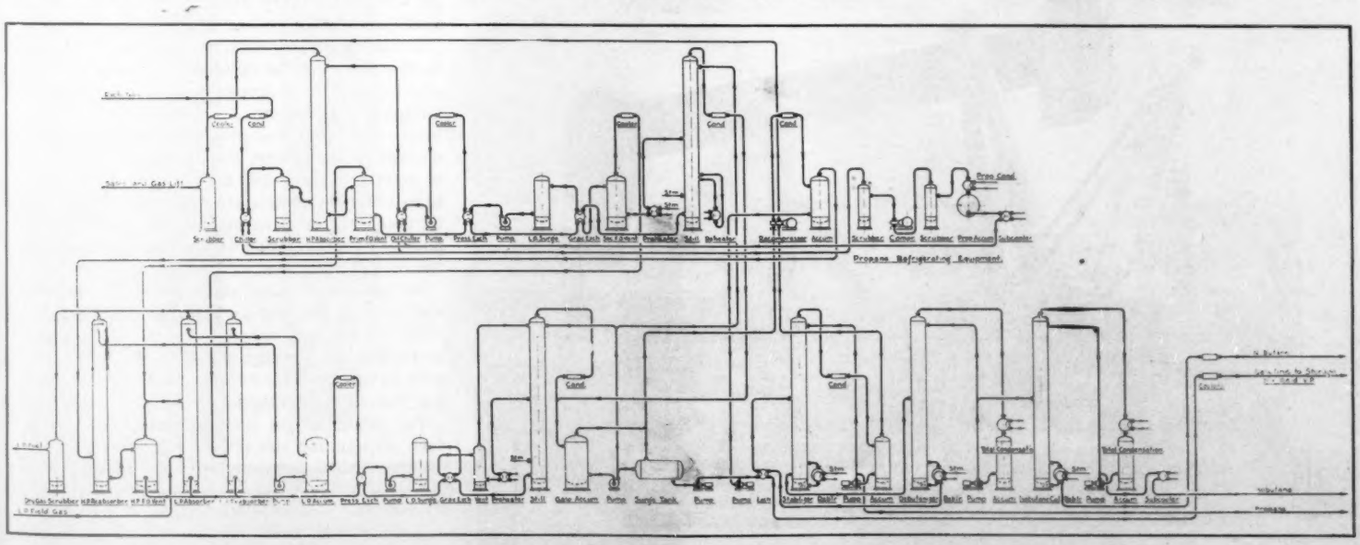
Two 16-tray steam stills, one 60 in. in diameter and the other 72 in. in diameter, are centered between the row of absorbers and the fractionators. Adjoining are the secondary vent tanks on the rich-oil line, in which the final pressure reduction on this stream occurs. In order to minimize the quantity of undesirable ethane carrying through to the feed stream of the depropanizer, the vapors vented here are passed through a shell-and-tube water cooler and the uncondensed gas delivered to a low-pressure reabsorber. In this way a material deethanizing of raw gasoline is accomplished.

Subordinate to the four high-pressure absorbers and the 200-lb. reabsorber are two absorbers operated at 40-lb. pressure. One is a typical low-pressure absorber handling field gases boosted from vacuum, and the other a reabsorber processing the vented gases from within the plant with the residue gas being used for field and other fuel purposes. Pumps used for circulating the 360,000 gal. of lean oil per day to the high-pressure absorbers and the 380,000 gal. per day to the low-pressure absorbers are three steam turbine-driven centrifugal units, one an auxiliary.

Supplementing the latter pumps but housed separately, are two new centrifugal units operating on 500-hour intervals before being reconditioned. These are directly connected to marine-type gas engines. Their chief duty is to supply water from the cool end of the atmospheric tower or the forced-draft unit for the closed propane condensation system of the refrigeration unit and also to the debutanizer and isobutane column. Steam for all the plant operations is generated by five 325-hp. Babcock-Wilcox water-tube boilers. The original boiler plant consisted of four 325-hp. water-tube boilers. These operate at 200-lb. pressure, utilizing the exhaust steam from the various pumps as much as possible through existing distillation equipment and returning the condensed water to the boilers besides condensing the greater part of the remaining steam through atmospheric condensers.

Since the propane-chilling assembly is the yardstick by which the plant's operating efficiency can be measured during the summer months, it is essential that the expanded propane vapors be effectively condensed without burdening the tower to the extent of altering its performance on the total condensation columns. To accomplish this a new section of forced-draft tower, 36 ft. long and 27 ft. high, was united with the old tower. This section is capable of handling up to 1,500 gal. of water per minute and reducing its temperature to within about 6° to 8° F. of the wet-bulb temperature, with 84° water and 64° wet bulb to 70° to 72° F. The fan of this forced-draft tower is driven by a reduction V-belt from an eight-cylinder automotive engine designed for stationary use, while the refrigeration unit and fractionating columns require 2,000 g.p.m. of water at an initial temperature of not exceeding 75° F., which is first passed through the propane condensor and then to the column condensor. It is possible to obtain approximately 1,500 gal. from the forced-draft tower and the remainder made up from the cool end of the atmospheric tower.

The 60-bay cooling tower, extending for 360 ft. and having a height of 45 ft., was thoroughly revamped. New modern Fluor aerators, having a minimum wind loss of water, replaced the old louvres. New sprays, carrying an increased quantity of water, were installed to give a more even



Flow diagram of the Superior Oil Co. absorption natural-gasoline plant and isobutane recovery system at Kettleman Hills, California

distribution of the 8,000 to 8,500-gal. circulated per minute over the coils.

Following are the pressures and temperatures at which the three columns operate:

Depropanizer	240 lb.	Bottom temp. Top temp. Reflux rate	271°-275° 105°-110° 2½ to 1
Debutanizer	94 lb.	Reboiler Reflux rate	217° 3½ and 4 to 1
Isobutanizer	115 lb.	Reboiler Reflux	151° 10-1 to 12-1
Refrigeration		Intake pres. Discharge pres.*	90 lb. 185-200 lb.

*Depending upon amount of C_3H_8 retained in C_4H_8.

The average daily yield of gasoline, due to refrigeration, has been consistently uniformly higher, irrespective of atmospheric conditions as compared with previous results. A conservative gain of about 2,500 gal. of gasoline daily has been realized, with an efficiency factor in the overall plant (by the charcoal rectifying method of testing) of 104 to 114 per cent as compared with 100 to 108 per cent previously. Since installation of the isobutane and refrigeration units there was a tendency to overload the present cooling tower, particularly during periods when there was little or no wind, making it difficult to maintain proper temperatures on the vital controlling phases such as the propane condensor, reflux and fractionating condensors. For that reason the Fluor forced-draft cooling section was added to the end of the present tower, which in turn relieved the main tower of approximately 20 per cent of the water with a resultant redistribution and improvement also in this tower. To the extent that the main tower has been relieved of its load during periods of low wind velocities, further assistance was had in keeping the temperatures on the propane reflux at the depropanizer below the critical temperature of approximately 85° F. By so doing, the refrigeration unit, in maintaining uniform gas and oil temperatures, and the forced-draft cooling unit are really the controlling factors in maintaining the highest efficiency for not only gasoline yield, but also for the byproducts collected at all times.

In conclusion, to achieve the equivalent performance in a complete, newly designed plant, it would show, no doubt, considerable saving in investment and simplicity of operation as compared with a plant already in operation, which naturally is difficult to rearrange properly without encountering complete shutdowns. In the above instance, no shutdown was necessary except in making the necessary connections to the stabilizer which was to function as a depropanizer. It is further contemplated possibly to use the force-draft tower during the cool months for condensing excess steam.

S. F. Magor is in charge of all gas operations of Superior Oil Co. and J. S. Judy is superintendent of the Kettleman Hills plant.

SAFETY — Counterbalance Guard Protects Pumper

SIMPLE and inexpensive but adequate guards have been instrumental in reducing the accidental injury rate over the past several years. These guards are becoming an integral part of the equipment and many pieces of machinery are no longer operated without proper safety devices.

Injuries around a pumping unit range from mashed fingers to death due to a fractured skull. In many cases the accidents are due to carelessness while oiling or repairing the pumping unit during the time it is in operation, or to the pumpers having to perform alone some task which really requires additional men.

At one time the belts or chains driving the unit were left unguarded, but in recent years a guard has been included with practically every pumping unit and it is nearly always kept in place as longer life is thus obtained from the belt or chain while at the same time it makes the pumping unit safer. On many units the beam is left unguarded and often injuries result due to the pumper coming into contact with it. If the unit is not in operation, the pumper can expect only a minor cut on the head if he strikes the beam or counterbalance. However, if the unit is working, the pumper could receive a fatal blow if struck by the counterbalance.

To prevent such an accident, the above unit is equipped with a guard made from light angle iron and mesh screen which will prevent the pumper getting too close to the beam regardless of whether it is in operation or not. The pumper is thus safe to make any adjustments necessary, oil the internal-combustion engine, clean the engine and its base and perform the necessary work without fear of forgetting himself and butting his head into the counterbalance.

Questions and Answers

Placing Nitroglycerin Shot

Would it be possible to remove the paper from sticks of blasting gelatin, work it into balls, drop it into a well and have it concentrate at the bottom of the hole? What would be the effect of the fluid pressure as the balls of gelatin sink to the bottom of the well? The well is 2,345 ft. deep, 5½-in. casing set in a 7⅞-in. hole to 2,305 ft., producing zone 2,305 to 2,345 ft., and producing formation is the Buda limestone. Size of casing limits size of explosive shell to 4 in. which gives a concentration of about 2 qt. to the foot and a concentration of 5 or 6 qt. is desired.—M. O. R., Luling, Tex.

One of the principal features of modern well shooting is the positive placement of the explosive at the point the operator wishes the detonation to take place. This is accomplished by running the liquid nitroglycerin in shells and placing them on the bottom or on a bridge built for that purpose. Solidified nitroglycerin is run in the hole in a drop-bottom torpedo shell which allows the explosive to be dumped on bottom or on the bridge.

This is a feature you do not have when dropping sticks or balls of gelatin into the hole or pouring liquid nitroglycerin into the hole. From your own experience you have probably seen how quickly a hole can bridge, particularly when you do not want it to do so. A bridge of gelatin any place in the hole would be very embarrassing and its elimination very difficult, the results to be anticipated being the loss of the well.

A loading density such as you desire (5 or 6 qt. to the foot) can be obtained by using solidified nitroglycerin in a drop-bottom torpedo shell and dumping it on bottom. You can then run the time bomb and tamp the shot with sand to prevent damage to the casing. Filling the hole full of oil is good procedure but care should be taken to keep the hole completely full. Care should also be taken not to have oil and water both in the hole as a concentration of the shock will occur at the oil-and-water contact.

At the present time shots having a density as high as 8 qt. per foot are being used to shoot lime wells. If the hole through the pay is too small to permit this density, the hole can be enlarged with an underreamer or wall scraper or by springing with a light charge of liquid nitroglycerin.

The depth of the well you mentioned is not deep enough for the pressure to have an effect on the gelatin. However, for the reasons given heretofore it would be very dangerous for you to attempt the procedure you outlined, particularly in view of the fact there is a better method of obtaining the desired results.

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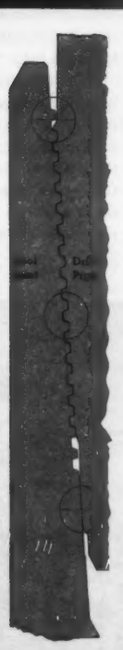
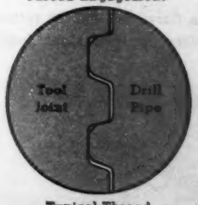


Last Scratch Thread Engagement



Typical Thread Engagement

Seal Engagement

Notch fatigue and washouts—those two wasters of drilling time and costs, are eliminated with Shrink Thread Drill Pipe. Notice how securely the last thread of Shrink Thread engages—how the broad, flat thread form grips—how the pressure seal stops all leakage. Worn tool-joints are quickly replaceable at the rig as needed. Investigate Shrink Thread for your next operation!

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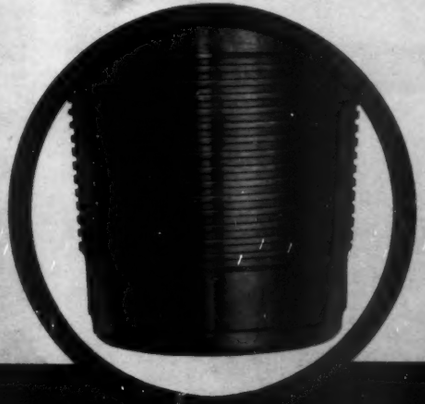


Cities Service Plant Operating Unusually Safe Truck Rack

By W. T. ZIEGENHAIN

AN unusually high degree of safety, economy and general practicability is reflected in the design and construction of the truck-loading rack at the Cities Service Oil Co.'s refinery at Ponca City, Okla. To meet every normal demand the rack can load four trucks at one time, two at each end of the rack. As many as eight different products can be loaded simultaneously. Provisions have been made to load as many as four products in one truck if the need should arise.

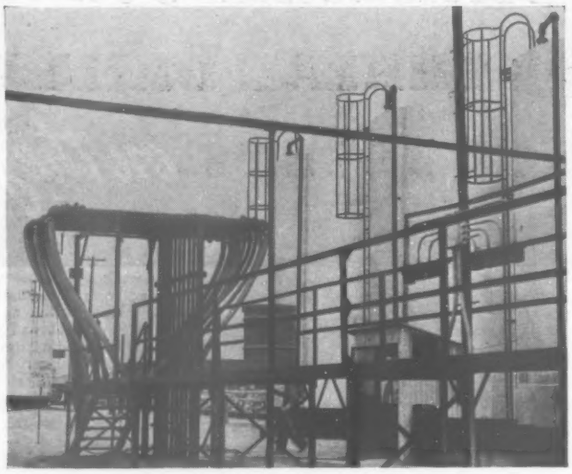
Construction of the rack itself is best shown in the accompanying photographs, but special attention should be given to its safety features. The walkway and steps are wide and well protected by high railings along their sides. The entrance or archway formed by the overhead feed lines is spacious and there is little chance for a head injury on the part of anyone entering the rack. In back of the rack is shown some of the tanks in which the finished products are stored. Note that protective cages have been built over the tank ladders as another recognized safe practice.

At the bases of these tanks the company has installed individual centrifugal pumps, each powered by an outdoor motor. The pumps are thereby provided with flooded suction which permits unusually large capacity discharge lines to carry the products to the racks. Deliveries of gasoline can be made at the rate of 350 g.p.m. and deliveries of the other products are handled at the rate of 100 g.p.m. The feed lines and pumps are in proportionate sizes, 4-in. lines being used for the regular-grade gasoline and 2-in. for the other products. Similarly, 7½-hp. motors drive the gasoline pumps while 3-hp. motors are used on the balance.

In the daily routine operation of the rack, deliveries can be made at any time within an 18-hour period. The normal procedure for loading a truck includes inspection of the tank before loading.

After the driver of the truck has placed his order in the office a copy of the bill of lading goes to the loader. When he has satisfied himself that the truck tank is empty and clean, he inserts the proper flexible delivery hose into the compartment of the truck, opens the valve in the overhead feed line and goes to the central starting switch panel at the center of the rack where he starts the pump supplying the product.

Each tank is serviced by a centrifugal pump and motor controlled from the loading rack



One end of the truck-loading rack at Cities Service Oil Co.'s refinery. Supply tanks are in background. Note safety cages on tank ladders

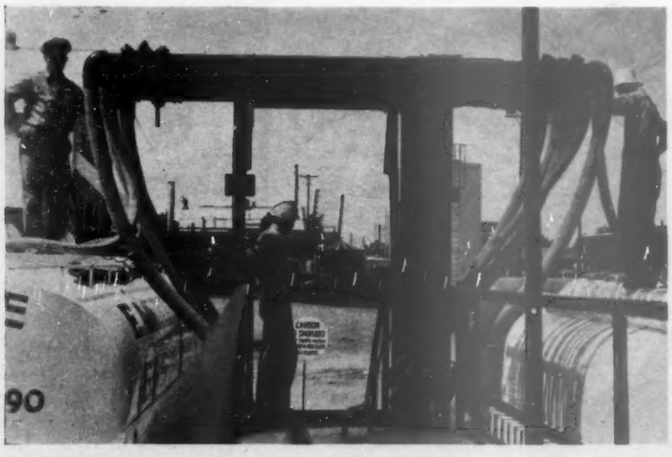
To maintain adequate supplies of finished products at the rack, the company has installed four 750-bbl. tanks and four 500-bbl. tanks. When the truck is full the operator closes the respective valve on the overhead feed line and then shuts off the pump at the switch panel. In this manner the lines are kept full at all times.

As an added safety feature each tank is equipped with a flameproof snuffing-type vent. Float gages have been installed on all of these tanks and readings can be taken at ground level but these gage readings are recognized as a check, inasmuch as deliveries are made on the basis of the state strappings and registered capacities of each truck tank.

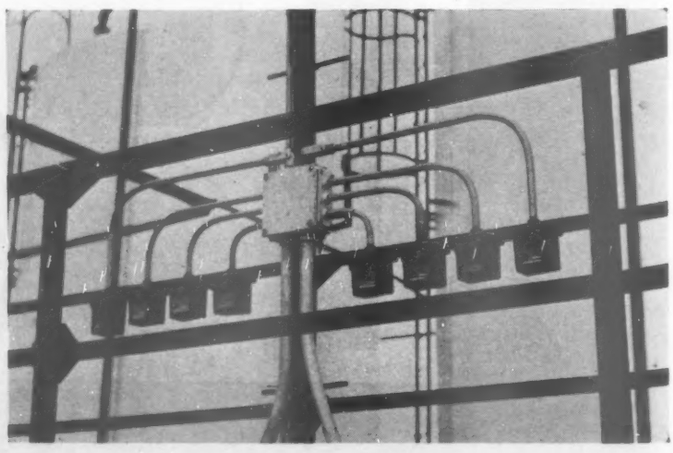
Convenient, safe and efficient truck racks have become an important part of every refinery. This has been particularly true in recent years during which the difference in transportation charges often represented the margin available for profit or loss. Plants which are located in areas of high consumption and especially those located in agricultural communities are able to distribute an appreciable portion of their output in this manner.

Truck operations may be found profitable over a wide range of mileages but most authorities agree that tank trucks are easily justified where hauls of less than 50 miles are involved. This distance has been stretched to 200 miles in the case of trucks taking oil out of some Kansas refineries into Nebraska and Iowa.

The importance of this type of business was early recognized by Cities Service and it was for the accommodation of trucks and the subsequent repeat business that caused the company to provide the accommodations described here. The choice of equipment and the design of the rack has proved sound by the constant use made of it in the past year.



Two trucks loading. Note accessibility of loading hoses, also safety of walkway



Closeup of outdoor starting switches for motors that drive individual charging pumps

Production Testing Of Seismometers

By P. M. HONNELL
Pasadena, Calif.

THE fundamental design of modern seismic equipment utilized for geophysical prospecting is not greatly different from that of the apparatus used in early days of refraction shooting. The intensive development of the past few years has, however, produced great improvements in sensitivity, size, and lowered costs of such equipment. Seismometers, in particular, have been radically redesigned with these objects in view. An example of this change is furnished by the comparison of the seismometer* with its modern equivalent. (See Fig. 1.) The reduction in size and weight is apparent.

This drastic reduction in the dimensions of seismometers was initiated by the demand for a larger number of recording channels and the use of multiple seismometers on each trace. Thus, it is not uncommon for 60 seismometers to be used on a setup today (three per trace on each of 20 channels). A few years ago a total of four or six seismometers was considered adequate. The production testing of seismometers is therefore a more difficult and exacting process than was formerly the case.

The primary requirement which must be met by the individual seismometers of a group utilized for seismic recording is that they all have identical electrical response for the same applied transient ground vibration. A direct application of this method of testing seismometers was formerly quite common. The procedure consisted in clamping the four or six seismometers of a recording party in a rigid assembly such as on a block of concrete; detonating a dynamite charge at a sufficiently distant point; and recording the separate seismometer transient electrical output through identical channels on an oscillographic record. The seismic record thereby obtained furnished some of the desired information on the seismometer characteristics.

Testing Large Group

Manifestly, this procedure is absolutely impractical when large numbers of seismometers are to be tested. Since the information obtained in such records gives only an implicit relation between the transient response of seismometers and their mechanical and electrical constants, the adjustment of seismometers not matching with the remainder of the group was largely a cut-and-try process. The purpose of this article is to describe the procedure followed in the testing of seismometers on a quantity-production basis.

Testing large numbers of seismometers is facilitated by the application of the results of the Fourier integral theorem as applied to linear systems. This theorem states that systems having identical amplitude or phase response for all frequencies will have identical responses to the same applied transient. The power of this theorem is apparent, for it assures that the overall seismometer transient characteristic can be obtained from steady-state characteristics for purposes of analysis and test. The response of systems to sinusoidal forces is well understood and, what is more important, the deviations of a seismometer's response from standard can be attributed directly to specified mechanical and electrical constants. It is therefore necessary only that the seismometers all meet the same steady-state mechanical, electrical, and transducing tests to insure the exact matching of all seismometers. The most important tests under these headings are listed in the following table and are considered in detail below.

*U. S. Pat. 1923088.

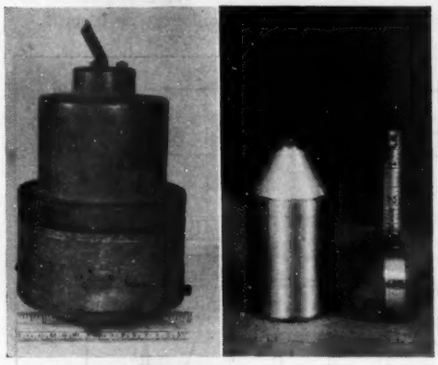


Fig. 1—(left) Seismometer of early days; (right) modern light-weight seismometer

CLASSIFICATION OF SEISMOMETER TESTS

Mechanical Tests

Overall physical dimensions
Weight of seismometer suspended mass
Spring constant
Free damping due to mechanical hysteresis
Natural period.

Electrical Tests

Insulation resistance
Resistance and impedance of winding
Gap flux density

Transducing Tests

Damping
E.m.f. response for applied velocity drive as function of frequency
Seismometer phase response against standard as function of frequency.

Quite obviously, all mechanical dimensions of seismometers must be kept within the closest possible limits; certainly to better than the usual 10^{-3}-in. tolerance on those parts influencing the behavior of the device. These include the moving mass, and the air-gap dimensions, in particular. After machining to size, the suspended mass of the seismometer is accurately weighed as a further check on the material and dimensions.

The spring constant of the elastic member supporting the moving mass is usually not determined directly, especially since the static and dynamic constants do not agree. Rather, the free mechanical period of the seismometer is determined; if the period is correct, the spring constant is assumed satisfactory since the mass of the moving member is held to close limits. The procedure for checking the free period and thereby the spring constant consists of supplying the seismometer coil with a suitable variable-frequency voltage of constant amplitude, varying the applied frequency in small increments, and noting the resulting displacement of the sprung mass. The seismometer mass is kept as nearly undamped as possible by supplying the driving e.m.f. from an oscillator of high-internal impedance and utilizing a very weak biasing magnetic flux so as not to damp the device electro-magnetically. Observation of the moving mass motion is facilitated by means of a viewing assembly and lens system, such as shown in Fig. 2.

That frequency for which displacement is a maximum will be quite close to the undamped natural frequency of the mechanical system.† If the damping ratio due to mechanical hysteresis is less than 0.1, then the error involved is less than 1 per cent, which is quite satisfactory. The damping due to mechanical hysteresis for almost any satisfactory spring design will be less than this figure of 0.1 which corresponds to a free oscillation amplitude ratio of approximately two to one for succeeding maxima in the same direction.

Electrical Tests

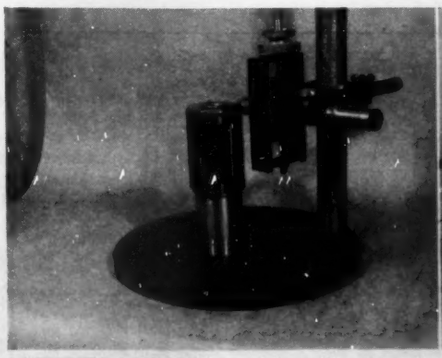
The electrical tests on the seismometer coil winding naturally include the measurement of insulation resistance to determine whether or not the winding is free of grounds. The impedance of the assembled winding as measured on a bridge at 1,000 cycles per second is a useful check on the presence of shorted turns. Those coils showing a low reactance on test belong in this category.

Evaluating the flux density in the air-gap of the seismometer is a most important measurement. This is performed most easily by the usual technique, which is standard in all respects. A device is utilized which centers a search coil of

†The exact expression for the frequency of maximum amplitude is

$$w_t = w_o\sqrt{1-2h^2} = w_o(1-h^2)$$

where w_o is the undamped natural frequency and h is the damping ratio.



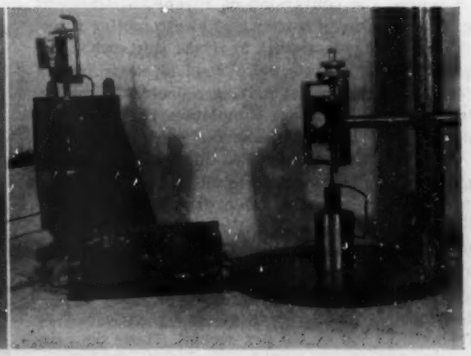


Fig. 2 (left)—Lens system for observing seismometer mass displacement. Fig. 3 (right)—Suitable arrangement of operations for flux density measurements

known dimensions and turns in the air-gap, while allowing it to move a small measurable distance in a direction normal to the useful flux. The coil is displaced sharply, and the resulting flux change is determined from the throw of a ballistic galvanometer and its calibration constants. This, together with the magnitude of the coil displacement, fixes the flux density. A suitable arrangement of the apparatus is shown in Fig. 3.

It is usual to measure the flux density at one or two points near the center of the gap. However, as a check on the original design or as a statistical control, it is sometimes desirable to measure the gap flux density throughout the axial length of the gap by taking readings at some 10 or 15 positions. This is accomplished by setting the search coil (which is placed in a narrow slot at the bottom of the coil form) progressively through the entire length of the gap. The magnet leakage flux can also be measured by a suitable search coil. Fig 4 is a typical plot of data obtained in this manner.

The curve *B* shows the variation of flux density in and near the gap, and the leakage flux along the length of the permanent magnet. Furthermore, by integrating the flux density curve graphically, the total flux in the magnet can be computed. This is curve *O* in Fig. 4. These data together with the cross-section of the permanent magnet structure, provide means for determining certain important information such as the ratio of useful to total flux or flux utilization factor; the flux demagnetization load-line; and whether the geometrical configuration is such as to provide the most useful utilization of the magnetic material.

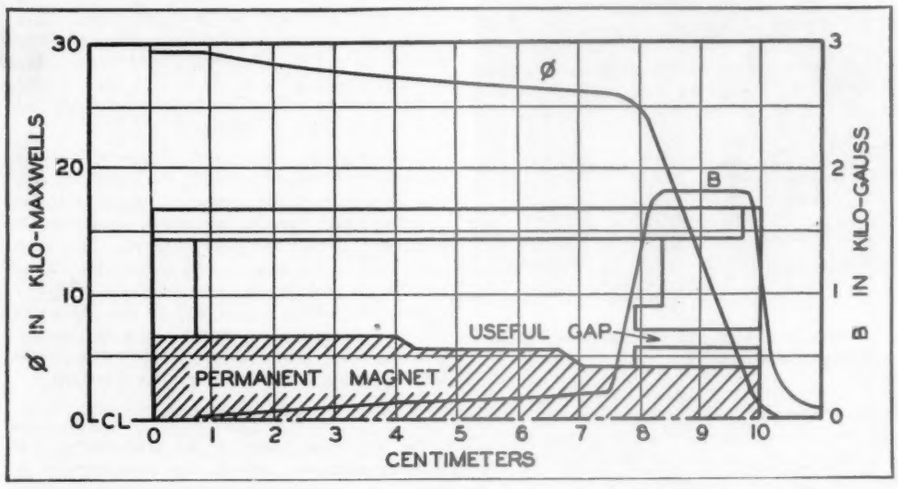


Fig. 4—Plot of gap flux density and computed total flux in permanent magnet of seismometer

Transducing Tests

The transducing function of a seismometer is, of course, the conversion of an applied transient ground motion to a transient electromotive force. In terms of steady-state analysis, this means the generation of an internal sinusoidal electromotive force by a sinusoidal driving velocity. Transducing tests are therefore complete overall input to output criteria of seismometer performance.

The practical approach to this procedure is by means of a mechanical oscillator, or so-called "shaking table"; a suitable design for such an oscillator‡ is sketched in Fig. 5. The table of the oscillator executes sinusoidal vibrations of accurately known velocity. The electromotive force generated internally in a seismometer placed on the table is measured over the frequency range from 10 to 500 cycles per second. These data determine the seismometer damping which is a function of the maximum to the asymptotic output for high frequencies.

The final and most important measurement consists in intercomparing the phase response of all the seismometers. For this purpose, it is simplest to select one or two seismometers of the group as standards. All other seismometers are then compared against these standards. The phase match of completed seismometers can be kept to within ±0.1 millisecond which represents a phase difference of ±0.72° at 20 cycles per second. This rules out the use of a cathode-ray oscilloscope for this measurement except as a rough qualitative check.

Phase Comparison

The phase comparison between the assembled and standard seismometers can be made by any of the usual phase-measuring techniques peculiar to alternating-current testing methods. These include bridge networks, delay networks, the alternating-current potentiometer and, of course, the direct recording on an oscillographic record.

It is usually satisfactory to make these phase measurements at certain specified frequencies within the useful range of the seismometer. In practice, it is desirable to choose frequencies which are not integrally related to power frequencies, so as to reduce the undesirable interference from power networks.

Naturally, the amplitude and phase of the seismometers' response is dependent upon the composite electrical and mechanical characteristics of the seismometers; if the results of all the individual tests previously enumerated were within prescribed limits, then the completed seismometers will all be as nearly identical as modern manufacture will permit.

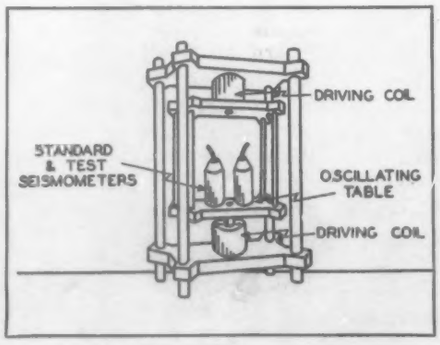


Fig. 5—Mechanical oscillator or "shaking table"

Some comments about this type of measurement may be useful. Weak electromotive forces are difficult to measure at best. A very specialized technique which cannot be touched upon here is required; and something more than a "vacuum-tube voltmeter" must be utilized if precise results are to be obtained. Since the frequency range pertinent to seismic apparatus lies right within the power-frequency range, a very difficult problem at once presents itself in isolating the test apparatus from power-frequency induction. Although this type of interference is present in all laboratory measurements, the usual amplifier technique is ordinarily concerned with a range of frequencies well above the power-frequency spectrum, making power interference less troublesome than in the present instance.

Finally, tests of seismometers as transducers require precise and controlled motions of the mechanical oscillator. Interfering vibrations from all kinds of machine tools or from railroads and other traffic seriously impair the accuracy of these measurements which depend upon exact nulls. Of course, it is possible to increase the amplitude of vibrations of the mechanical oscillator table to override these extraneous vibrations; unfortunately there are many restrictions to such a remedy, not the least of which is the change in seismometer constants as a function of amplitude. These changes are of the same order of magnitude as the tolerances to which seismometers are held in the useful operating amplitude range. It is therefore highly desirable to perform these measurements in a laboratory shielded from stray electromagnetic induction and isolated from extraneous vibrations.

‡"Construction of Master Mechanical Oscillator," F. W. Lee and G. A. Irland. Tech. Paper 518, Bureau of Mines, 1932.

Questions and Answers

Cementing Off Bottom-Hole Water

We are told that in trying to cement off water, if the measurements are not correct and the cement is lodged opposite the oil-bearing sand that it will not set in the latter. Is this correct?—P. L., Tulsa.

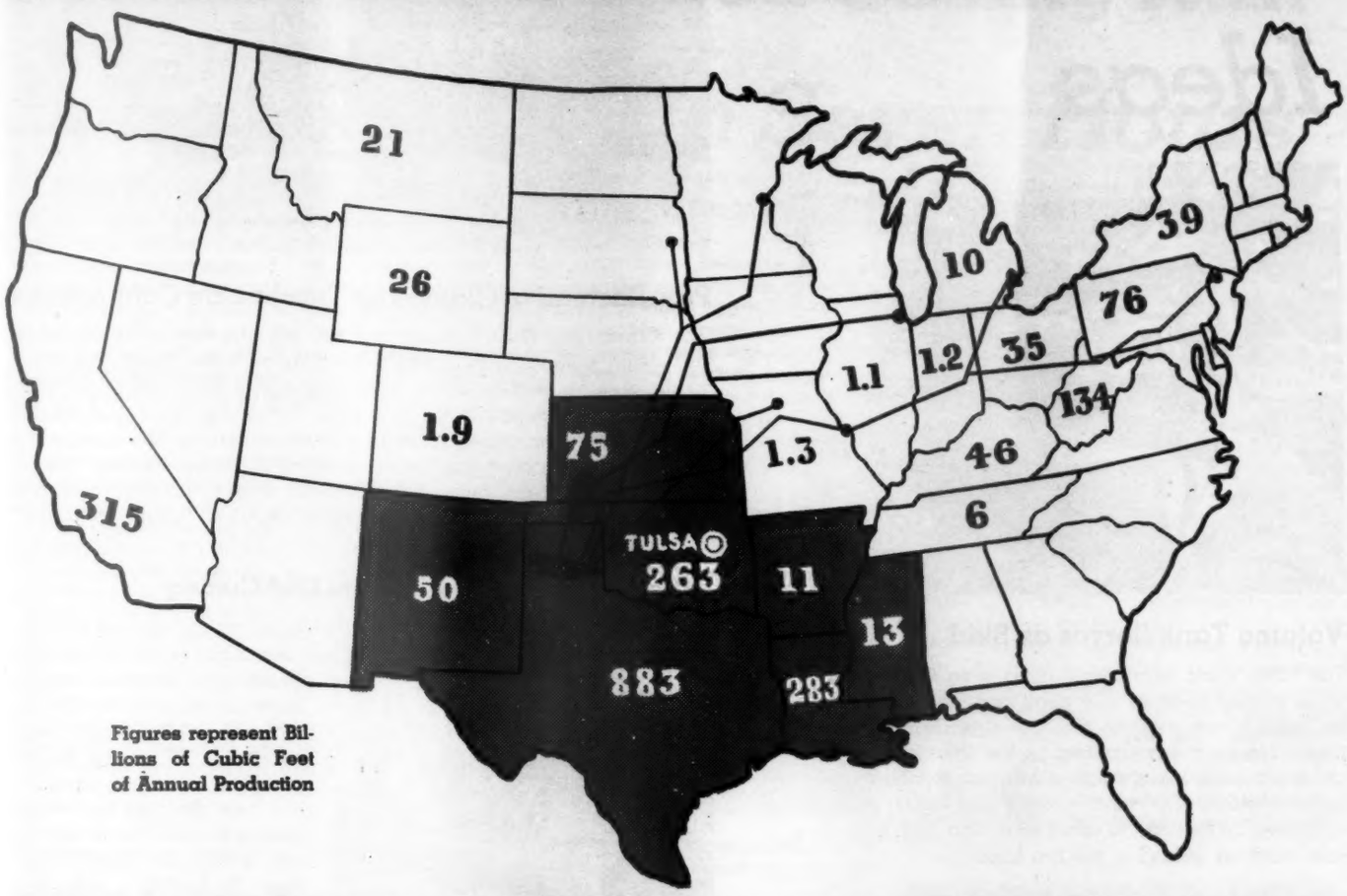
When blocking off bottom-hole water in a well the practice today is to set a cement retainer, or a packer, either in the casing or the open hole, wash the formation with clear water and then force cement into it. After allowing time for the cement to set the well can be cleaned out down to the bottom of the oil-bearing formation and recompleted.

Ordinarily the cement will not set in the oil-bearing portion of the formation; however, when a large quantity of water is forced into the pay section some cement may set, but the bond will be poor and swabbing the well will cause the oil to come back into the hole as though it had never been cemented.

It may be well to call your attention to the fact that some operators now use acid in preparing to cement off bottom-hole water. The procedure is to acidize the water-bearing strata until fluid will move into it freely, and then follow with the cement treatment, finally obtaining the pressure buildup and a definite shutoff.

While it is better to have correct measurements they are not absolutely necessary, as you can see, and one of the most effective methods disregards any contamination of the formation by cement, as in the use of this method the hole below the casing is completely filled with cement.

TULSA AND *NATURAL GAS*



Figures represent Billions of Cubic Feet of Annual Production

RED AREA PRODUCES 69% OF U. S. NATURAL GAS

Tulsa—in addition to being the Oil Capital of the World—may fairly lay claim to the companion distinction of being the world's "Natural Gas Capital." A review of the facts and figures on gas production and reserves readily indicates the justice of this claim.

The United States produces nearly 90% of the world's natural gas. The map shows U. S. annual production in billions of cubic feet. Tulsa's position in this great national industry is seen to be central. She is also seen to be strategically located in the nation's major gas region—the Midcontinent—which accounts for 69% of the total production. Tulsa is situated in one of the leading gas producing states and lies just eastward from the nation's two most important gas fields (shown in deep red)—the Panhandle Field in Texas and the Hugoton Field in Western Oklahoma and Kansas. It is these two fields from which trunk pipe lines are carrying gas to population centers of the North and East.

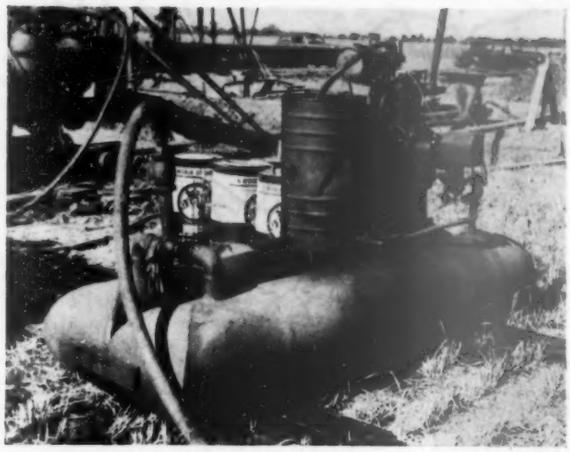
The same companies which produce oil in the Midcontinent are also in large measure the producers of natural gas. Tulsa is the Midcontinent city at which the operating offices of these companies are mainly concentrated. The Midcontinent Oil & Gas Association has maintained its headquarters at Tulsa for many years.

As regards natural gas *reserves*, the world's two greatest known reserves are the Panhandle and Hugoton fields already mentioned, which comprise nearly half of the known reserves of the nation, while the Midcontinent as a whole contains 80% of the nation's reserves, or approximately 51 trillion cubic feet of natural gas.

Tulsa's dominating position in relation to oil production, natural gas production and reserves, and reserves of high-grade coal—assures power-using industries which locate in the Tulsa area a low-cost fuel supply for upward of a thousand years! The Industrial Department of the Tulsa Chamber of Commerce will be glad to furnish further information. Write fully.

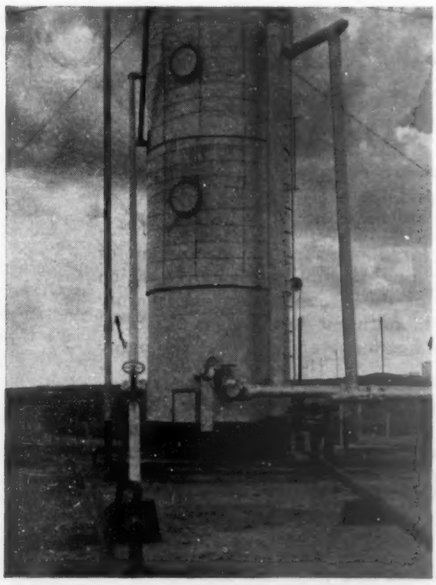
TULSA
The Oil Capital of the World

Operating Ideas



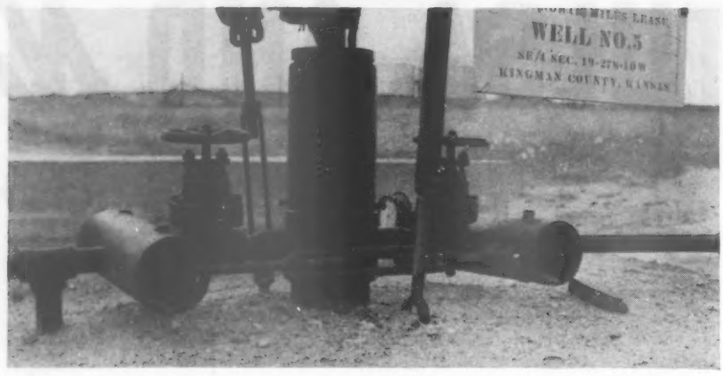
Volume Tank Serves as Skid

The utility plant on a rotary rig is often hard to handle while moving because it is small and may be damaged by contact with a larger piece of equipment. This particular plant generates current for the lights and also has an air compressor to provide power for cranking the large diesel engines. The volume tanks and utility plant are combined by bolting the compressor and light plant to a steel platform welded to the two tanks.



Adjustable Drain on Treater

At an emulsion treating plant in a Kansas field, this unique arrangement was used to drain the salt water from a treating unit. It consists of a swing on the water discharge of the treating unit, a 3-in. pipe riser and a trough made from old 6-in. pipe. The trough drains to a disposal pit, discharge being regulated by sliding the riser in the trough.



Pipe Instead of Clamps for Turnbuckle Connections

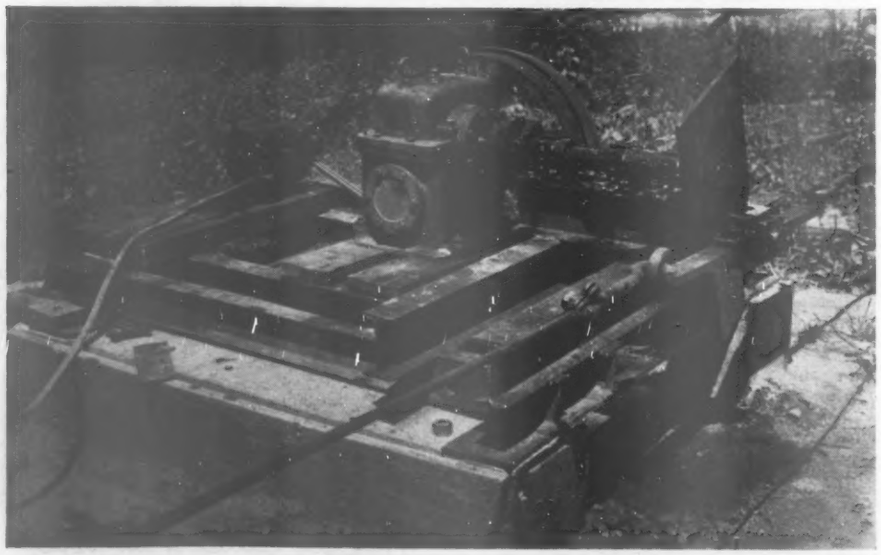
One Kansas operator has substituted 6-in. pipe for turnbuckles on all of his flowing wells. A hole large enough to admit a 2-in. pipe is cut in the middle of a 3-ft. section of 6-in. pipe. A slot near each end of the short section permits the eye in the end of the turnbuckle to be inserted into the pipe. Holes are provided for dropping pins through the eyes of the turnbuckles and locking them in place. The 6-in. pipe is slipped over the 2-in. nipple on the discharge side of the valve when connections are being made. Turnbuckles are easily removed for disconnecting the well head.

Bailer Dump Box Made From Old Casing

Instead of the wooden dump box for the boiler, which must be built on each location, one Kansas contractor has the dump boxes on his rigs made from old pipe. The main body is made from 12¼-in. pipe with a 10-in. nipple welded onto it. When the bailing operation is started it can be slid near the hole and when bailing is concluded it can be slid toward the edge of the floor. By having a deep box made by the 10-in. nipple, splashing is eliminated.

Two-Well Power from Electric Motor and Reduction Gear

This power, designed and built by a Pennsylvania operator, pumps four shallow wells in Cherrytree Township, Venango County, Pennsylvania. It consist of a ½-hp. electric motor belted to a 24-in. pulley on a reduction gear. The crank or eccentric is a piece of steel welded to the shaft of the reduction gear and to which a bearing has been welded. The cost of operation is less than $2 a month, the owner says.



2,930 Ft. of Welded Casing Run In Kansas Well in Seven Hours

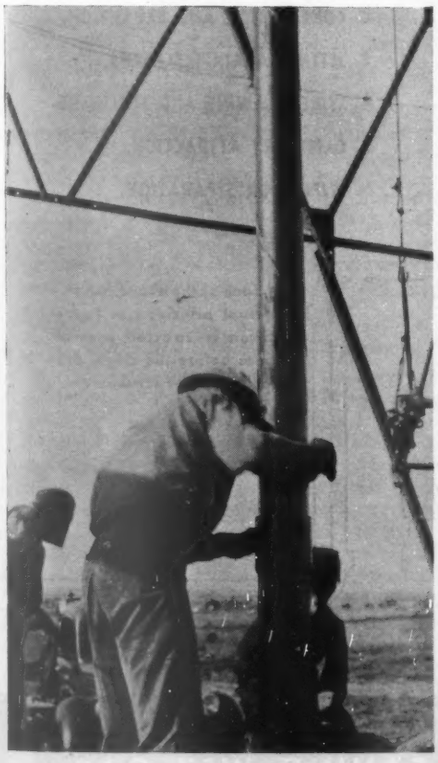
By HARRY F. SIMONS

IN the Hall-Miller area of Russell County, Kansas, two pay horizons are being developed, the Arbuckle lime at approximately 3,200 ft. and the Kansas City-Lansing lime at approximately 2,900 ft. Some operators are drilling a 7¾-in. hole and running 6-in. o.d. casing to the Kansas City-Lansing lime as this will permit later deepening of the well to the Arbuckle zone.

One company, on a well in the SW Section 32-14s-13w, recently ran 2,930 ft. of welded casing to a total depth of 2,930 ft. in 7 hours elapsed time, the pipe being set and cemented in the top of the Kansas City-Lansing pay. The casing used was 6-in. o.d. spiral welded, No. 5 gage, low carbon, steel pipe weighing 13.8 lb. per ft. and having a wall thickness of 0.21875 in. The collars have an outside-diameter size of 6¾ in., thus allowing ample clearance in a 7¾-in. hole. The casing used is cut into 40-ft. lengths at the mill and, as 5 in. is lost on each joint due to insertion in the collar of the top joint in the well, it is necessary to multiply the number of joints run into the well by 39 ft., 7 in. to obtain the length of the string. The joints need only be counted, although some operators insist on measuring them just to keep the record straight. By using the longer joints the number of welds and the running time are reduced by 33.3 per cent.

One of the savings in this type pipe is due to the fact that only two welders are needed in addition to the regular crew. Ordinarily a casing crew of three men is required to help the regular crew run pipe or the drilling contractor will have part of the drilling crew "double over" for the casing job. The welded casing requires no spinning up or no tonging and hence the regular crew can perform all the work but the welding.

Two welders work simultaneously running the beads on the welded casing. Weld is cleaned after first bead and cooled before quenching



Only one floorman is required to stab the bottom of the casing joint into the slip-type collar. Ordinarily, two men are needed

Two welders were used for the welding, working simultaneously. Each of the 74 joints was welded with two beads, the first bead being run with 5/32-in. No. 5 Fleetweld and the second bead being run with ¼-in. rod. Total welding bill on the job was $56.

The pipe used is so constructed that no tacking with the welding rods is necessary. The slip-joint collars are put on at the factory with a positive-alignment jig and are then welded in place. The ends of the pipe are machine-squared to 1/32-in. clearance and are inserted into the collars easily. Length of insert is 5 in. and once the pipe has been fitted into the collar it can be welded immediately. No line-up clamps are necessary.

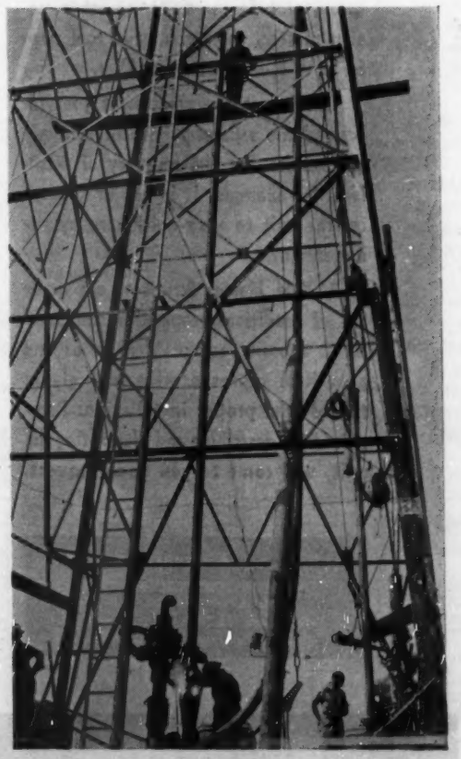
Running Casing

The casing is run in the regular manner with a pick-up line attached to the becket of the traveling blocks. The floor men insert the bottom of the joint into the slip-type collar and welding starts almost immediately. The derrick man gives upper end of the pipe a light shake to make sure the bottom end is inserted into the collar properly. As soon as the welding of the finish bead is started the driller slacks off on the brake until the derrick man can latch the elevators. The pipe is then ready to be lowered into the hole as soon as the welding is finished.

After the second bead has been run, a wait of 45 seconds is necessary before the pipe can be lowered into the hole as this is the minimum time for cooling of the weld and pipe to below the critical temperature. Lowering the pipe into the hole sooner than this would result in its being quenched in the drilling mud prematurely, thus weakening the structure of the welded portion and making a failure possible. The pipe used in this well, being of low carbon content, reaches the critical range much quicker than ordinary steel casing. Average time required to run a joint of the casing was 4½ minutes. This includes picking up the joint of pipe, inserting it, welding, waiting for the critical temperature to be reached, and lowering the casing string into the well ready to pick up another joint. Some joints are run quicker than this but time lost through filling up the pipe, etc., must be considered in the total elapsed time.

Lower end of the casing is equipped with a slip-type float shoe which can be put on the pipe and welded in place before running of the casing is started. The top joint is equipped with a threaded collar which will permit connecting up the cementing equipment.

While the casing string in the well in the Hall-Miller field is the longest string of this type ever run, a safe margin existed as the calculated maximum setting depth of the pipe, with a safety factor of 2, is 5,480 ft. with mud inside and cement out. The setting depth obtained is partially due to the light weight of the pipe, the string run in the well mentioned having a total weight of 40,434 lb., not discounting the loss of weight through buoyancy.



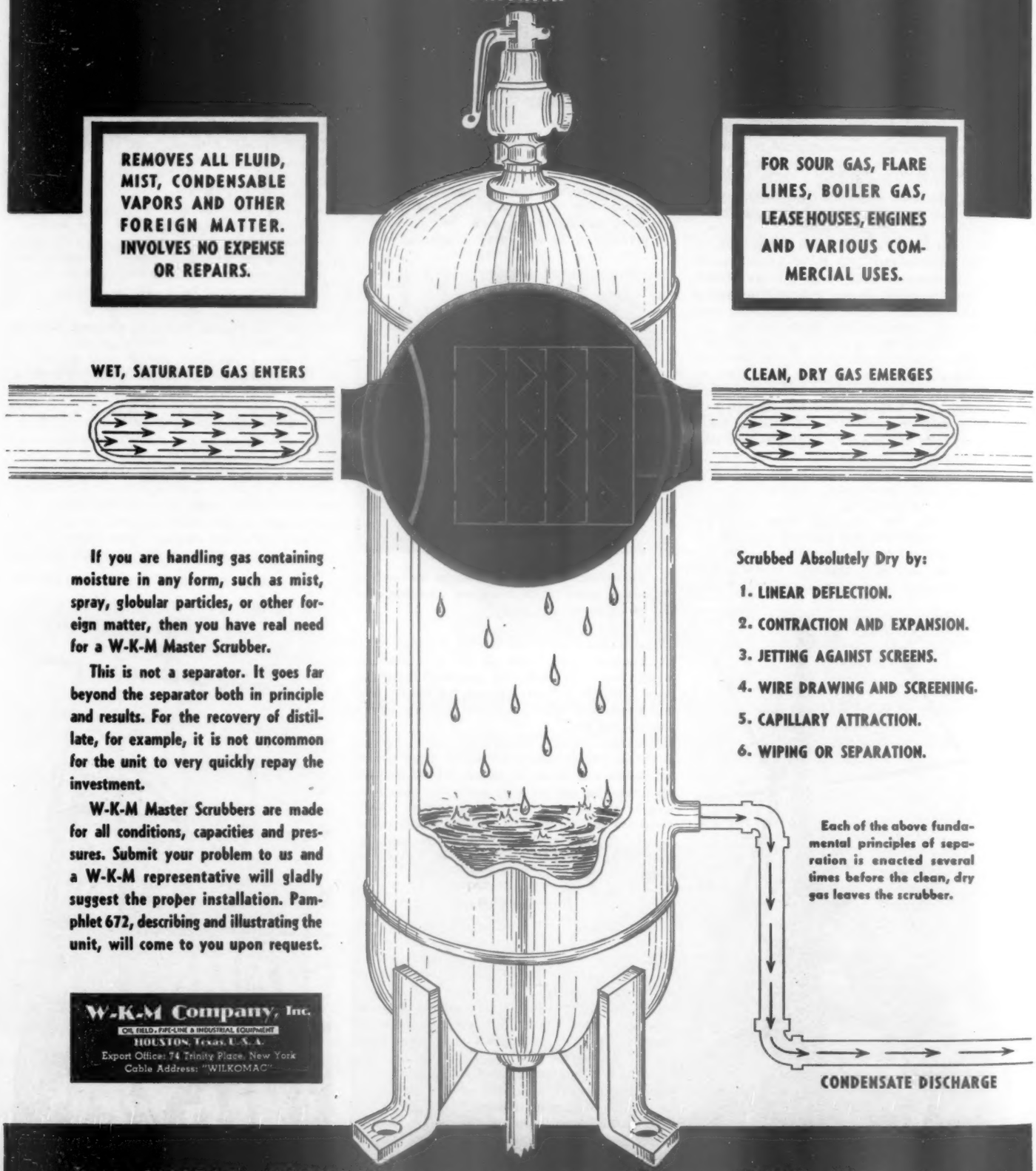
While the welding progresses the derrick man does whatever he desires as no holding of the pipe is necessary. Elevators are latched just before completion of second bead

W-K-M Master Gas Scrubbers

Patented

REMOVES ALL FLUID, MIST, CONDENSABLE VAPORS AND OTHER FOREIGN MATTER. INVOLVES NO EXPENSE OR REPAIRS.

FOR SOUR GAS, FLARE LINES, BOILER GAS, LEASE HOUSES, ENGINES AND VARIOUS COMMERCIAL USES.



If you are handling gas containing moisture in any form, such as mist, spray, globular particles, or other foreign matter, then you have real need for a W-K-M Master Scrubber.

This is not a separator. It goes far beyond the separator both in principle and results. For the recovery of distillate, for example, it is not uncommon for the unit to very quickly repay the investment.

W-K-M Master Scrubbers are made for all conditions, capacities and pressures. Submit your problem to us and a W-K-M representative will gladly suggest the proper installation. Pamphlet 672, describing and illustrating the unit, will come to you upon request.

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Each of the above fundamental principles of separation is enacted several times before the clean, dry gas leaves the scrubber.

THE SIMPLE, INEXPENSIVE METHOD OF CLEANING WET GAS

Economic Pumping of Wells In Oklahoma City Field

(Continued from Page 49)

which would otherwise be detrimental to the operation of both the surface power pump and the subsurface fluid engine. Oklahoma City oil must be heated before filtering so that paraffin will not be deposited in the filter. During earlier practice this heating was accomplished by burning gas in a heater element within the conditioning unit. This was an additional expense; it often made heat control difficult; and it sometimes led to fires. Now the heat used in the conditioning tank is derived from the jacket water of the engine which drives the triplex power pump.

The multicylinder gas engines used to drive the triplex power pumps for the hydraulic pumping systems were formerly cooled with radiators in the conventional manner. With the cooling system now in use the water can be circulated either through the radiator or through the heat-exchange coils in the conditioning tank, or the stream may be split to bring about the desired amount of cooling. In order to make for more efficient engine operation and to provide more heat for the conditioning tank, the exhaust manifolds are now water jacketed.

It was while working to develop this heat exchange system for engine and treating tank that J. H. Wallace discovered the advantages of vapor-phase engine cooling by which the water enters the engine jackets at the boiling point and comes out as steam at the same temperature. Under such a cooling system the engine heat is contributed to the jacket water as latent heat of vaporization. The higher operating temperature brings about greater efficiency, and since the lower portion of the cylinder walls are hotter, condensation of the products of combustion on these walls is practically eliminated. The result is greater freedom from tapered cylinders, elimination of stuck piston rings, and reduction of sludge formation in the engine oil.

A company operating a large number of hydraulically pumped wells has installed a paraffin scraper in each well. The scraper is pulled by a light wire line, and one light truck equipped with a power-driven reel is kept busy going from well to well to pull the paraffin scrapers. Most of the paraffin is deposited from the power fluid as it is pumped downward through the small string of tubing within the production string. It is this power-fluid input string which is cleaned by the scraper.

Submerged Electrical Pumping

Large volumes of oil are still being produced in the Oklahoma City field by submergible centrifugal pumps. This type of pumping system is described with reference data on Pages M-9 through M-12 of the Producing Equipment Directory. Within the last few months a new starting practice has been developed which avoids a possible source of sand trouble. When the pump is to be started for the first time or after a well-servicing job, the tubing is loaded with water. Formerly when the pump was started up against a low fluid head or against no head at all, there was a tendency to draw in sand because of the great velocity of the fluid handled. The water serves to hold back the production sufficiently during the starting period to prevent disturbance of sand.

Well Servicing

Practically all well servicing is carried on with large truck-mounted pulling units. While these units use the truck engines for driving the hoist drums, they are all equipped with combination carburetors so that the engines are fueled with natural gas while at the location. This arrangement is almost an economic necessity, for if the trucks used gasoline for hoisting duty 40 gal. would be required on most well-servicing jobs and this would mean hauling additional gasoline to the location in an auxiliary truck.

More attention is being paid to tubing during well-servicing work. In the past the useful life of tubing has nearly always been determined by the threads. Through better thread care it has been found that tubing life is appreciably extended. Tubing represents one of the largest single items of expense for the producing well, and wells have often been abandoned because of their inability to justify another string of tubing. Proper cleaning and use of thread compound are obviously useful measures. Most operators vary the pulling procedure so that the stands are broken out at different joints on each trip. Following this practice each thread receives its share of use and the wear is not allowed to be concentrated at given points.

Suggested FIELD PRACTICES . . No. 9

Intermittent Gas Lift Beneficial to Large Wells

By T. P. SANDERS

IT is often assumed that only on wells of comparatively low productivity can intermittent gas lift be beneficial in reducing gas-oil ratios. As a result, it is often the case that intermittent gas lift is substituted for straight gas lift only after excessive gas-oil ratios have made a change imperative for continued operation. Data presented by E. C. Babson before the A.P.I. in a paper titled "The Range of Application of Gas-Lift Methods" show clearly that intermittent gas lift is capable of reducing the gas-fluid ratio on almost any well which produces less than 1,000 bbl. of fluid per day.

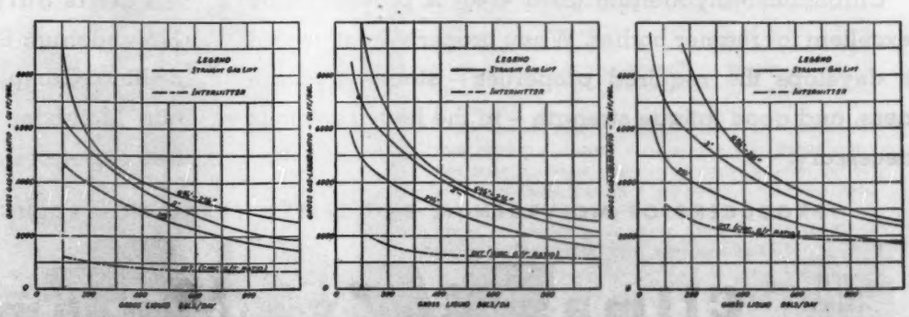
The accompanying charts illustrate results obtained on a large number of gas-lift installations. It will be noted that intermittent gas lift in large-capacity wells offers less advantage as depth increases. This is due to the fact that more gas is required to fill the tubing or casing with each gas injection.

Permit Low Gas-Oil Ratios

Although benefits derived from use of intermittent gas lift are great, many of the modern intermitting systems are able to produce with even smaller gas-oil ratios. By using a bottom-hole intermitter, the gas required to fill the input string at each injection period is saved. Bottom-hole intermitters operate in a variety of ways. Some are opened by differential pressure when fluid accumulates in the hole to a given height. This type usually closes due to gas velocity when the fluid is discharged from the hole. Other types employ a wire line in the tubing to control the action of a bottom-hole valve from the surface. Another type uses a column of dead fluid to control the opening and closing of the bottom-hole valve. Still another type uses a small electric motor to rotate the tubing so that ports at the bottom of the string are opened and closed during the rotation. On Pages H-20 through H-25 of the Producing Equipment Directory all types of bottom-hole intermitters are described and illustrated.

In some wells intermittent gas lift is not desirable because, although it will reduce gas-oil ratios, it will not obtain as much production from the well. Such wells are rare, for by proper regulation it is usually possible to obtain as much production by intermittent gas lift as by straight gas lift. Also, in most fields, production is limited by proration and not producing capacity.

Due to differences in wells, it is not considered advisable to use the accompanying charts, or any such charts, without proper observations for the given well. The charts should serve merely to show the advisability of trying intermittent gas lift at various stages in the well's life so that it can be adopted as soon as the point is reached where it becomes beneficial.



Comparison of gas consumption for various gas-lift methods at 25-lb. per sq. in. tubing pressure. (After E. C. Babson, "The Range of Application of Gas-Lift Methods," presented before A.P.I., Chicago, November, 1939.) Left, 3,000 ft.; center, 5,000 ft.; right, 8,000 ft.

REAMERS MUST TAKE A BEATING AND LIKE IT

Few, if any, other tools meet so varied an assortment of loads as that which falls to the lot of oil well reamers. Tension, torque, impact and vibration all come the reamer's way — and continuously. Material selection is, therefore, even more important than usual.

Chromium-Molybdenum (SAE 4140) is proving to be excellent for reamer bodies. When properly heat treated it develops the required properties — strength, toughness, and good fatigue strength — in the heavy sections necessary.

Furthermore, SAE 4140 has definite production advantages. It is free scaling during forging, thus giving a good surface to the bodies. It responds uniformly to heat treatment and presents no machining difficulties at the hardness to which it is treated.

This is only one of the many applications of Molybdenum Steels to the specially tough jobs in well drilling. Complete data on these steels is contained in our "Molybdenum Steels in Oil Production," which is sent free on request.

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MOLY

Progress in METALS

By W. L. NELSON

Fatigue Strength at 500° C.

Abstract: Hempel & Ardelt—Resistance of Steel to Repeated Tension-Compression Stresses at 500° C. (Verhalten von Stahlgegen Zug-Druck-Wechselbeansprucchung bei 500° C.) Arch. Eisenhuttenw, Vol. 12, May 1939, pp. 553-562. Abstract taken from Metals and Alloys, December 1939.

Original research. Creep curves at 500° C. were obtained for a 0.58 per cent C steel, a 0.14 per cent C, 0.40 per cent Mo steel and a 0.56 per cent C, 1.58 per cent Cl, 15.5 per cent Cr, 13.3 per cent Nl, 2.02 per cent W steel under alternating tension-compression stresses. Comparison creep curves were also obtained for static tension and compression loading. The special apparatus with an automatic-recording device, which was developed for these tests, is described. The creep rate for 10 hours could be determined to an accuracy of 10.5 $\times 10^{-4}$ per cent per hour. At elevated temperatures creep occurs under alternating tension-compression stresses in the same way as in ordinary creep testing, the creep rate being greater in the first few hours and then gradually declining. The course of the creep curve under alternating stressing depends on the median and maximum stressing. It is of interest that, when the median stress is zero (i.e. the positive and negative stresses are equal) creep still occurs. There is a lengthy discussion, with numerous diagrams, on how these results may be interpreted.

Temperatures in Casing During Welding

Abstract: Bruce, W. A. The Thermal Distribution and Temperature Gradient in the Arc Welding of Oil-Well Casing. J. Applied Physics, Vol. 10, Aug. 1939, pp. 578-584. Abstract taken from Metals & Alloys, December 1939.

Mathematical.—Applying the Kelvin method of heat sources the temperature distribution in an infinite plate due to a heat source moving with constant speed, and thus the general effect of a moving welder, was obtained. From the fact that an infinite plate with an infinite number of heat sources in a line is equivalent to an infinite cylindrical shell with n equally spaced sources w units apart on a circumference $c = nw$, it was possible to work out a very general solution. Certain simplifications and approximations of this solution are given together with a correction factor to be used when welding is done with a backing plate. An experimental test of the solutions deduced in practical casing welding is described. HFK (6a).

Metallurgical Terms

Heating Methods in Oxyacetylene Welding

These definitions are intended to clarify the comparison of the two common heating methods that are run concurrently with the welding operation. In one case, the welding flame is preceded by preheating flames that are maintained a few inches in advance of the welding flames. This continuous preheating allows the welding to proceed continuously except to change rods. In the other case, the welder applies the preheat himself by alternately welding, preheating, and welding and uses the same tip for preheating and welding.

Preheat.—The heat applied to the joint prior to the deposition of weld metal.

Welding heat.—The heat supplied to the joint by the welding flame during the deposition of weld metal.

Welding period.—The overall period during which weld metal is being deposited in the fabrication of a joint.

Concurrent heat.—The heat applied to the joint during the welding period other than the welding heat.

Continuous preheat.—A type of concurrent heat which is maintained continuously during the welding period.

Intermittent heat.—A type of concurrent heat which is alternated with periods during which weld metal is deposited.

Postheat.—The heat supplied to the joint after the welding period.

Manganese Steels Used in Trench Diggers

The task of ditch-digging and excavation machinery is particularly severe because of the dirt and sand which must make contact with many of the wearing parts. In addition, much of the equipment must be designed for somewhat loose fits and hence extreme overloads and shock loads must be sustained by such parts as chain links, chain pins, bucket teeth, side-cutter bars and tractor tread plates.

The Parsons Co., of Newton, Iowa, uses Amsco manganese steel and other alloy steels extensively in its line of excellent trench-excavation equipment. American Manganese Steel Co. 12 per cent manganese steel is used for such parts as chain links. This type of steel is recognized the world over as the most shock-resistant and tough steel that is known. It is used in the cast condition and it is so greatly hardened by cold work that the finish-surfaces must be ground to shape rather than machined.

Low-manganese steels (usually 1.25-2.0 per cent) are used for side-cutter bars, the main body of the buckets, and the tread plates. For the cost, low-manganese steels exhibit about the best physical properties that can be attaind. An advantage in using low-alloy steels for the aforementioned parts is that such steels can be welded.

The digger teeth are made of chrome-vanadium steel, drop-forged and heat-treated; and the tips are hard-faced with sintered tungsten carbides such as Stoodite. Alloy-steel shafting is employed throughout. The wide use of excellent and somewhat expensive alloy materials indicates that performance and maintenance are the primary aims in constructing trench-excavating machinery.

Courtesy Parsons Co.

Trench digger in action

Radium for Industrial Radiography

The use of radium as an agent for determining the existence of internal imperfections in metals is closely related to the use of X-rays (The Oil and Gas Journal, July 15, 1937, p. 71) for the same purpose. The apparatus is relatively simple. A small silver capsule containing radium sulfate is suspended rigidly in front of the specimen and X-ray films are fastened to the back of the specimen using lighttight holders for the films. Radium sulfate decays or decomposes to half its strength during about 1,580 years and hence the intensity of the gamma rays that are produced does not decrease appreciably during an exposure of even several days.

Radon is a gaseous product that is produced by the decomposition of radium and the amount of radon is a direct measure of the intensity of the gamma rays. Although radon can be and is used for radiography in place of radium because of its relatively low cost, it is not as satisfactory as radium because it loses its strength rapidly, being half consumed within 4 days.

Radium is somewhat more satisfactory than X-ray machines for extremely thick objects because of the greater penetrating power of gamma rays and because long exposures (even several days) can be employed.

Copies of an excellent publication entitled "Radium for Industrial Radiography," by Gezelius and Briggs, is available from the Radium Chemical Co., Inc., 570 Lexington Avenue, New York.

Alloy Steel for Oil-Well Perforator Gun

The terrific pressures involved in shooting holes through the casing of low-production wells, by means of gun perforators such as that manufactured by the Lane-Wells Co., of Los Angeles, Calif., requires the use of alloy steels. In addition to the high pressure of the explosion, the equipment must be relatively small and light in order to be lowered into the well and yet carry a sufficiently large charge of explosive. The perforator gun is lowered into the well from a specially built truck having a drum carrying 9,000 to 16,000 ft. of conductor core cable. Shots are fired electrically from a control panel mounted on the truck. A special 3½ per cent nickel-chromium steel, heat-treated to high strength and toughness, is employed by Lane-Wells for the powder chambers and gun barrels.

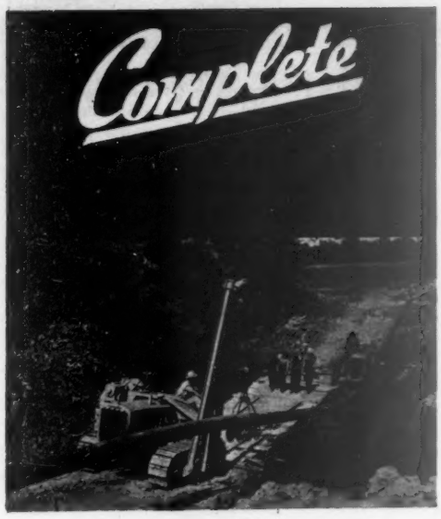
Copper-Alloy Sucker Rods

Although the copper-base alloys are not usually recommended for conditions which involve sulfide corrosion, some of these alloys appear to exhibit excellent resistance. The Bridgeport Brass Co., of Bridgeport, Conn., announces experiments with Duronze sucker rods when used in sour oil wells of West Texas. This alloy is a special aluminum-silicon bronze containing approximately 7 per cent of aluminum and 2 per cent of silicon.

It is claimed that the material lasts 10-12 times longer than regular steel rods when used in West Texas wells. The alloy is several times as expensive as steel but on the above basis, the more expensive copper-base rods are more economical than steel rods. The length of life of several kinds of rods in Noble & Co.'s No. 2 Edwards in Big Spring, Tex., were as follows:

Plain steel	30 days
3.5 nickel—0.22 moly steel	49 days
High nickel steel	59 days
Duronze	630 days

The material will probably stand up well under other corrosive conditions as well as the particular conditions encountered in West Texas.



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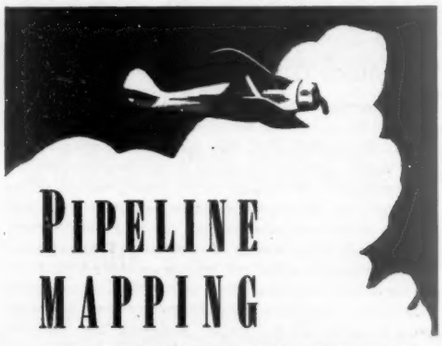

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Pipe-Line Activity

Grogan Purchases Acquired By Standard and Gulf

SHREVEPORT, La.—Standard Oil Co. of Louisiana is now purchasing all production in the Shreveport field of Caddo Parish, Louisiana, following the withdrawal of the Grogan Oil Co. interests from the field. In the Lisbon field of Claiborne Parish, the crude formerly purchased by the Grogan interests is now being taken by the Gulf Refining Co. The De Soto Crude Oil Purchasing Co., and Caddo Crude Oil Purchasing Co., Grogan pipe-line companies which maintained gathering systems in the two fields, have gone into bankruptcy.

Illinois Pipe Line Completes Bridgeport-Centerville Line

Illinois Pipe Line Co. has completed and placed in operation a 57-mile crude-oil line between Bridgeport and Centerville, Ill. The line consists of 43 miles of 14-in. and 10 miles of 8-in. The line was laid by Sheehan Pipe Line Construction Co.

F.P.C. Extends Filing Date for Natural-Gas Pipe Line

WASHINGTON, D. C.—An extension of time to September 1 for the filing of new schedules of rates and charges has been granted by the Federal Power Commission to the Natural Gas Pipe Line Co. of America and the Texoma Natural Gas Co. At the same time the commission denied all other requests made by these companies in a motion for a stay of the commission's order of July 23, 1940, requiring the filing by August 15 of new rate schedules to become effective on September 1 and to reflect a reduction of not less than $3,750,000 annually in the charges for natural gas sold for resale in the Chicago area.

Stay and suspension of the order were requested by the companies pending the filing by the defendants-respondents of a motion for rehearing and, in event a rehearing is denied, pending a review of the commission's order by the courts on appeal.

Should the commission deny a motion for rehearing and refuse to abrogate its order and opinion No. 49 ordering this rate reduction, the defendants-respondents state they "have the right, which they will exercise, to a review of such order by the Circuit Court of Appeals of the United States or by the Circuit Court of Appeals for the District of Columbia."

In its order of July 23, the commission directed the companies to file on or before August 15, 1940, new schedules of rates in connection with their transportation and sale of natural gas in interstate commerce to reflect a reduction in operating revenues.

The companies contend that denial of a stay and suspension of this order would entail "serious, substantial and irreparable damages and losses" in that the operation of the order will deprive the defendants-respondents of revenues aggregating $312,500 per month which they would otherwise receive if the present rates continue in force during the period pending the filing and disposition of a motion for rehearing and the review of the order on appeal.

Contending against various adverse rulings of the commission on issues of law and of fact, the companies state that in their motion for rehearing they will point out and assign as error on the part of the commission its holdings, rulings and findings on 29 or more issues, including jurisdiction, going-concern value, rate base, provision for amortization, rate of return, burden of proof.

The companies claim that "the commission is without authority to reduce the existing rates, fixed by private contracts negotiated prior to the enactment of the Natural Gas Act, to a level which will not enable and permit defendants-respondents to recover, during the remaining life of defendants-respondents' business, the present fair value of defendants-respondents' property devoted to public use, together with a reasonable return thereon."

T. R. Jones Laying Michigan Transmission Line in Indiana

Work of laying the 55 miles of 24-in. pipe in western Indiana for Michigan Transmission Corp., a subsidiary of Columbia Gas & Electric Co., has been approximately half completed by T. R. Jones. The construction is of composite type with two joints welded in a section and joined to the line by couplings. Considerable concrete work has been done and at present concrete work is being done at three points. The line is scheduled for completion September 16. Headquarters are maintained at Rockville, Ind.

Lone Star Completes Line From Opelika to Trinidad

Lone Star Gas Co. recently completed a 20-mile 12-in. gas line from the Opelika area to the company's gasoline plant at Trinidad, Tex. At Opelika, Tex., Shamrock Oil & Gas Co. will install two 600-hp. compressors for the recycling plant which will be operated in connection with Lone Star Gas Co.'s properties.

Williams Brothers Start Work on Magnolia 200-Mile Line

Williams Brothers Corp. has established an office at Norman, Okla., for handling construction work in the laying of the 200-mile 4½-in. gasoline line for Magnolia Petroleum Corp. The line will be laid from the pump station on Magnolia Pipe Line Co.'s line

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Pipe-Line Personalities . . . J. C. Reinbold

J. C. REINBOLD

J. C. (JACK) REINBOLD, general superintendent of Panhandle Eastern Pipe Line Co., has been active in every phase of construction and operation in more than 33 years in the gas and oil industry. Jack, as he is known, has worked in most all the major oil and gas fields in the Mid-Continent and eastern fields—carried water, pumped, wrenched rods, bucked tongs, oiled, walked line, straw boss, timekeeper, foreman, and has dug many a section of ditch, even if one superintendent did tell him that he couldn't throw enough dirt in a day to bury himself. He grew up in Oil City and Emlenton, Pa., and during vacations at school age, worked in the oil and gas fields adjacent to his home.

Late in 1906, he worked for the Logan Gas Co. at Chillicothe, Ohio, and in 1907 he migrated to Casey, Ill., where he was employed by the Buckeye Pipe Line Co. on station construction and main-line construction. Late in 1907 he moved west, working for the Prairie Oil & Gas Co., Wichita Natural Gas Co., and Kansas Natural Gas Co. He became superintendent of the Portland Pipe Line Co., leaving this position to engage in pipe-line construction for several contractors.

In 1918 he joined the Army and upon discharge entered the employ of the Empire Natural Gas Co. in the production department at Dillworth, Okla. He was engaged in pipe-line construction and operation in Oklahoma and Kansas for several years.

In 1925 he entered the employ of the Cities Service Gas Co. on the construction of one of the first solid welded lines in the Mid-Continent, called the Cambridge Petrolia line. He had charge of constructing several lines for this company.

In 1928 he left this company and entered the employ of the Missouri-Kansas Pipe Line Co., Kansas City, Mo. (now Panhandle Eastern Pipe Line Co.), as general superintendent. All pipe lines and compressor stations of this company have been built and erected under his supervision.

near Petty, Okla., to the Magnolia refinery at Fort Worth, Tex. J. R. Horringam, from the Houston office of Williams Brothers Corp., will direct the work. Pipe will be laid by two spreads. Pipe has been delivered to points along the right-of-way and construction operations start this week.

From a shipping point near Oklahoma City, products transported through the projected line will be shipped by truck and railroad. Several stations to supply local territories will be built along the Fort Worth-Oklahoma line but their locations have not yet been determined.

The Fort Worth refinery, which has a capacity of 5,000 bbl. a day, is to have a capacity of 20,000 bbl. a day, when straightrun, cracking and reforming refinery equipment is installed along with additional storage facilities. Construction work on the plant is to be started this fall.

Buffalo-Syracuse Gasoline Line of Socony-Vacuum Is Delayed

Construction of Socony-Vacuum Oil Co.'s gasoline pipe line in New York State has been held up before it got under way. Delay has been caused by permits to cross railroads and highways being temporarily withdrawn at the request of railroad interests. This project calls for the laying 171 miles of 6-in. and 4-in. pipe from Buffalo to Syracuse. The contract has been let to O. C. Whitaker Co. which has established an office at Canadadaigua.

Texas-New Mexico Will Lay 161-Mile Crude-Oil Line

Texas-New Mexico Pipe Line Co. has sent out specifications and asked for bids to be submitted August 22 for a 161-mile crude-oil pipe line in West Texas. Pipe shipments are expected about September 1. The line will consist of 4 miles of 14-in. near Levelland in Hockley County, 82 miles of 8-in., 19 miles of 10-in. near Midland, and 46 miles of 8-in. and 10-in. between Midland and Crane.

National Will Build 54-Mile Pipe Line

National Refining Co. of Cleveland, Ohio, has completed signing up right-of-way for a 54-mile 8-in. crude-oil pipe line. This line will extend from Hooser station in Cowley County, Kansas, eastward, and it will tie in with trunk pipe line to the company's Coffeyville refinery. National will buy stripper-well production in both Cowley and Chautauqua counties along the route of the line.

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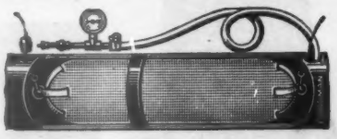

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FIELD OPERATIONS

Summarizing the Week's Developments

OHIO—With Magnolia's deep test in the Lockport and Carter's wildcat finding water in the Oriskany and Newburg, Northeast Ohio's play has slowed down.

MICHIGAN—The Sun well in Gladwin County gives Michigan its second new pool in as many months, and the second find of the year.

LA-ARK-TEX—Claiborne Parish, Louisiana, is receiving considerable attention as five wildcat tests are under way. The deepest, Ohio, 15 Taylor is nearing the Roseberry and Sexton sands which are productive at Shongaloo.

COASTAL TEXAS—Magnolia's attempt to find a deep sand in the West Ranch field proved disappointing and the company will plug the well back to one of the regular pays.

CALIFORNIA—The Havenstrite test in the Newhall-Saugus district of the Los Angeles Basin is showing encouraging results and may give California its first new field of the year.

WEST TEXAS—Holding the attention of the week in this district was the opening of a new shallow field in Ward County and just southeast of the Shipley field by Sinclair Prairie, 1 Davis.

WEST CENTRAL TEXAS—New wildcat tests were started during the past week in Fisher, Coleman and Taylor counties. A ¼-mile extension was in prospect for the recently opened Gunsight lime field in Jones County.

NORTH TEXAS—The majority of the closely watched wildcats in the Fort Worth basin area of North Texas are nearing crucial stages, however, only Gant, 1 Laird, in southern Montague County, reported new shows of oil during the week. Many outpost tests are getting under way around the several new discoveries of the past few months.

EASTERN TEXAS—New wildcat locations held the attention in this district as exploratory tests were located in Limestone, Bowie and Navarro counties. Wood County's projected 8,500-ft. wildcat test recently staked was started during the week.

SOUTHEAST NEW MEXICO—Drawing even more attention to central Eddy County as a prospective oil-producing area, another wildcat was staked in the area during the past week to bring the total to four during the past few weeks.

KANSAS—An oil pool was discovered 1½ miles northwest of the West Ellinwood field, Barton County. A Stafford County discovery was completed. The Zenith field, Stafford County, was given a short northwestern extension.

OKLAHOMA—A small discovery well was completed in the Wildhorse area, Osage County. A productive area was uncovered in Pottawatomie County, about 1½ miles northwest of St. Louis production. Oswego lime was proven productive in the Chandler field, Lincoln County, where other production was from Skinner sand. A Garfield County wildcat was showing oil.

Completions in All Fields

(Week Ended August 10, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	83	14	4	101	2,500	1,925
Ohio	11	11	9	31	743	563
Indiana	7	1	2	10	256	147
Kentucky	7	8	9	24	327	416
Illinois	56	1	19	76	2,289	2,158
Michigan	8	1	8	17	764	833
Kansas	33	1	4	38	1,148	769
Oklahoma	27	2	14	43	1,189	1,160
Texas:						
North Central Texas	21	1	13	35	1,888	1,502
West Texas	39	0	3	42	1,311	1,167
Texas Panhandle	10	5	1	16	383	251
Eastern Texas	6	2	3	11	316	457
East Texas Border	1	0	1	2	48	46
Gulf Coast Texas	21	0	4	25	800	826
Southwest Texas	12	1	10	23	1,372	1,428
Total Texas	110	9	35	154	6,118	5,677
North Louisiana	7	0	5	12	370	322
Gulf Coast Louisiana	12	0	3	15	612	358
Total Louisiana	19	0	8	27	982	680
Arkansas	2	0	2	4	124	158
Montana	2	0	1	3	118	92
Wyoming	6	0	1	7	97	64
Colorado	1	0	0	1	15	8
New Mexico	9	0	1	10	419	362
California	17	0	1	18	647	561
Total United States	398	48	118	564	17,736	15,573
Total previous week	429	24	157	610		
Week ended Aug. 12, 1939	329	39	120	488		

Outstanding Fields—Highlights

(Week Ended August 10, 1940)

FIELD—	Active operations	Oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS					
K.M.A.	48	1	678	1,430	36,063
Wasson	62	7	5,519	899	28,000
Ector County	53	13	16,357	2,228	40,398
Hull-Silk	30	4	3,225	331	7,921
Jones County	16	0	0	628	6,200
East Texas	19	3	80	25,976	374,948
OKLAHOMA					
Oklahoma City	11	0	0	835	87,600
Cement	11	1	400	323	6,475
NEW MEXICO					
Lea County	52	5	4,794	2,532	89,090
Eddy County	44	3	590	604	16,900
KANSAS					
Bornholdt	13	3	149	100	1,980
Burnett	10	3	1,533	112	3,895
Silica	10	1	360	643	12,200
Trapp	14	2	695	563	12,750
LA-ARK-TEX					
Cotton Valley, La.	4	0	0	162	14,005
Olla, La.	7	2	385	20	2,445
MICHIGAN					
Allegan County	23	1	40	507	7,786
Kent County	10	1	375	335	10,395
CALIFORNIA					
Montebello	17	0	0	345	18,600
ILLINOIS					
Salem	99	19	6,342	2,202	176,203
Centralia	11	5	5,266	706	41,220
Louden	38	6	1,429	1,570	73,104
Other basin fields	275	26	9,542	2,356	95,060
Old fields	.....	.....	.....	.....	9,843
MISSISSIPPI					
Tinsley	9	1	600	68	11,033

ILLINOIS FIELD REPORT

By

STAFF CORRESPONDENT

New Pools in Montgomery, Bond Counties in Prospect

CENTRALIA, Ill., Aug. 12.—Illinois' production continued to decline, although at a slower rate than during July, as the state produced 395,450 bbl. during the past week. Both Salem and Centralia dropped slightly over 6,000 bbl., while Louden declined about 1,500 bbl. The total decline for the state was 13,095 bbl. from the previous week.

During the week ended August 10 there were 76 completions, of which 19 were dry holes and one was a small gasser. The 56 oil-well completions had a total initial production of 22,579 bbl. or 403 bbl. per well.

Illinois State Geological Survey reports that 6,898 producing wells have been drilled in the play which started in 1937 in Illinois, with 489 dry holes. On August 1, there were 141 drilling wells with 231 rigs standing, 59 wells rigging up and 48 locations. Of the operations, 91 drilling wells were in the fields with 50 wildcats; there were 157 standing rigs in fields and 64 wildcats; 53 of the wells rigging up were in the fields with 4 wildcats and all but 3 of the 48 locations were in the fields.

The National Petroleum Co.'s discovery well in Bond County was reinforced by a north offset when Magnolia, 1 J. Elam, SW SW SW 3-6n-2w, reported 13 ft. of saturation in the Benoist, topped at 1,009 ft. In the Irvington pool, in Washington County, Gulf, 1 Stanton swabbed 64 bbl. of oil and 29 bbl. of water. This well is in the NW 26-1s-1w, south of Gulf's Buhl lease and probably defines the pool on the south side.

ILLINOIS COMPLETIONS

Bond County

Arrow Drlg., 1 Snow ..... NE NW NE 33-7n-2w
Dry. Golconda 876 ft., Cypress 960 ft., Paint Creek 1,020 ft., Bethel 1,094 ft., T.D. 1,178 ft.

W. H. Dickerson, 1 Wise ..... SW NW NE 19-4n-2w
Dry. Elev. 495 ft., Louisiana limestone 2,365 ft., Chattanooga 2,385 ft., Devonian 2,459 ft., T.D. 2,574 ft.

Clark County

Tex Harvey, 2 Tyhurst ..... NW SW SE 26-9n-14w
Dry. Hole full of water and show oil 663-700 ft. T.D.

Clinton County

Livesay & Kerwin, 1 McAdams .. NE SE SE 34-3n-2w
Dry. Elev. 434 ft., Benoist 1,287 ft., T.D. 1,300 ft.

A. W. Gerson, 1 Hodapp ..... SE SE NE 27-2n-2w
Dry. Benoist 1,400 ft., Devonian 2,858 ft., T.D. 3,001 ft.

May Pray, 2 M. Knolhoff .... SW SE NW 11-1n-2w
55 bbl. oil and 7 bbl. water, Benoist, shot 3 qt. 1,320-24 ft., T.D. 1,325½ ft.

Duncan, 4 Knolhoff ..... NE NW NW 11-1n-2w
75 bbl. oil and 5 bbl. water, shot 2 qt., T.D. 1,325 ft.

Centralia Field—Clinton-Marion Counties

Fotiades, 1 Hood ..... NE NW NW 2-1n-1w
Flowed 1,632 bbl., 3,000 gal. acid, Devonian 2,903-13 ft.

Gloyd & Borge, 1 George ..... W½ SW NW 7-1n-1w
Pumped 92 bbl. oil and 5 bbl. water, Devonian 2,932-33½ ft.

Smokey, 1 Koelmer ..... E½ SE NW 11-1n-1w
942 bbl., 2,000 gal. acid, Devonian 2,909-16 ft.

Shell, 17-C Criley ..... E½ SW NE 2-1n-1w
2,350 bbl., 5,000 gal. acid, Devonian 2,884-95 ft.

Gulf, 2 Ellerman-Buehler ..... E½ SE SW 36-2n-1w
Pumped 250 bbl., 1,000 gal. acid, Devonian 2,920-25 ft.

J. G. McNeil, 1 Kraft ..... SW NW NW 36-2n-1w
Temp. abandoned. Devonian 2,929-31 ft.

Clay County

Orchard, 5 Norton ..... NE NW NW 18-2n-8e
45 bbl., Cypress 2,660-72 ft., pay 3,000-8 ft., T.D. 3,024 ft.

Crawford County

Kidd & Thomas, 1 Headley.....SE SW SW 8-7n-11w
Dry. Elev. 461 ft., Golconda 1,250 ft., Cypress 1,312 ft., Bethel 1,454 ft., Aux Vases 1,460 ft., Ste. Genevieve 1,485 ft., T.D. 1,610 ft.

Edgar County

Nims, 1 Sanders ..... SW SE 11-12n-11w
Dry. T.D. 740 ft.

Edwards County

Noah & Morrison, 2 Barnes ... SW NE NE 24-2s-10e
Flow 400 bbl. through ½-in. choke, 3,000 gal. acid, McClosky 3,116-24 ft.

Superior, 5 Woods ..... NE NW NW 19-2s-11e
Pumped and flowed 230 bbl., 5,000 gal. acid, McClosky 3,094-3,113 ft.

Effingham County

Kingwood, 1 Wolfe ..... SW SW SE 14-5n-7e
Dry. Elev. 513 ft., Fredonia 2,847 ft., St. Louis 2,930 ft., T.D. 2,955 ft.

Louden Field—Fayette County

Carter, 2 B. Algood ..... NW NE NW 2-8n-3e
192 bbl., 40-qt. shot, Cypress 1,498-1,535 ft., T.D. 1,584 ft., P.B. to 1,525 ft.

Carter, 12-3 J. Alsop ..... NE NE SW NW 12-8n-3e
Gas input well. T.D. 1,468 ft.

Babcock, 6 E. Rhodes ..... NE SW SE 27-8n-3e
Pumped 50 bbl. oil and 20 bbl. water, Cypress 1,494 ft., Paint Creek 1,551 ft., Benoist 1,574 ft., shot 30 and 40 qt., T.D. 1,593 ft.

Carter, 7 E. M. Durbin ..... NE NE NE 33-8n-3e
Flowed 726 bbl., Cypress 1,471-1,529 ft., Paint Creek 1,538-69 ft., T.D. 1,569 ft.

Carter, 5 Mary Horn ..... NW SE SE 8-7n-3e
168 bbl., 60-qt. shot, Cypress 1,475-1,510 ft., T.D. 1,561 ft., P.B. 1,510 ft.

Markham, 5 Rhodes ..... NE SW SW 18-7n-3e
203 bbl., 20-qt. shot, Cypress 1,514 ft., T.D. 1,536 ft.

Texas, 8 E. Philbrook ..... SW NE SE 31-7n-3e
90 bbl., 10-qt. shot, Cypress 1,535 ft., T.D. 1,580 ft.

St. James Field—Fayette County

Ohio, 7 C. T. Williams ..... SE NE SE 36-6n-2e
60 bbl., shot 8 qt., Cypress 1,597-1,616 ft.

Texas, 10 C. Wright ..... SW NE SW 31-6n-3e
196 bbl., 10-qt. shot, Cypress 1,591 ft., T.D. 1,610 ft.

Gallatin County

Halbert, 1 Osborne ..... SE SE NE 29-8s-10e
Dry. Ste. Genevieve 2,712 ft., St. Louis 2,929 ft., T.D. 2,933 ft.

Bert Fields, 9 Greene ..... NW NW NW 21-9s-9e
Pumped 40 bbl., 60-qt. shot, Waltersburg 1,755 ft., T.D. 1,782 ft.

Jasper County

Pure, 1 Rotramel ..... W½ SW SE 8-5n-10e
Flowed 617 bbl., 5,000 gal. acid, Fredonia 2,770 ft., pay 2,775-77, 2,785-93 ft., T.D. 2,825 ft.

Pure, 11 Hall ..... E½ NE SE 17-5n-10e
Flowed 1,264 bbl., Fredonia 2,783 ft., T.D. 2,825 ft.

Pure, 1 E. Hernickle-A ..... E½ SE SE 31-5n-10e
Flowed 776 bbl., natural, Fredonia 2,826 ft., pay 2,831 ft.

Lawrence County

Kentucky Natural et al, 1 J. Thompson .....
NE SW NW 18-4n-10w
810,000 cu. ft. gas, 375 lb. pressure, Buchanan 1,074 ft., T.D. 1,127 ft.

Marion County

Harvey, 4 Kagey-C ..... SE SW SE 33-3n-2e
Pumped 125 bbl., Aux Vases 2,023-38 ft., T.D. 2,040 ft.

Southwestern, 15 Warfield ..... SW SW SE 5-2n-1e
Flowed 525 bbl., 100 gal. acid, Devonian 2,925-26½ ft.

Salem Field—Marion County

Texas, 6 J. Hamlin ..... SE NW NE 4-2n-2e
Salt-water disposal well. T.D. 1,600 ft.

Texas, 16 C. Kleinschmidt ..... SW NW NE 28-2n-2e
Flowed 336 bbl., 20 hours, 5,000 gal. acid, Devonian 3,496-3,528 ft., T.D. 3,530 ft.

Texas, 34 W. Friedrich-B ..... NE NE NE 30-2n-2e
Dry. Devonian 3,497 ft., porosity 3,553-64 ft.

T. D. Lain, 15 Dempsey ..... NW NE SE 31-2n-2e
Pumped 25 bbl., 3,000 gal. acid, McClosky 1,980-88 ft.

Texas, 28 M. Williams ..... SE SE SE 31-2n-2e
Flowed 753 bbl., natural, Salem 2,112 ft., oil 2,087-97, 2,165-75, 2,185-2,220 ft., T.D. 2,250 ft.

Texas, 24 S. Stonecipher ..... SW SE SW 32-2n-2e
Flowed 112 bbl., 9,500 gal. acid, Salem 2,144 ft., oil 2,152-64, 2,185-90, 2,195-2,200, 2,219-25, 2,246-65, and 2,298-2,313 ft., T.D. 2,377 ft.

Texas, 25 S. Stonecipher ..... SE SW SE 32-2n-2e
Flowed 252 bbl., 7,000 gal. acid, Salem 2,212 ft., pay 2,212-20, 2,240-50 ft., T.D. 2,250 ft.

Texas, 10 H. F. Corbin ..... SW SW NW 5-1n-2e
Flowed 420 bbl., 20 hours, 5,000 gal. acid, Devonian 3,342-85 ft., T.D. 3,388 ft.

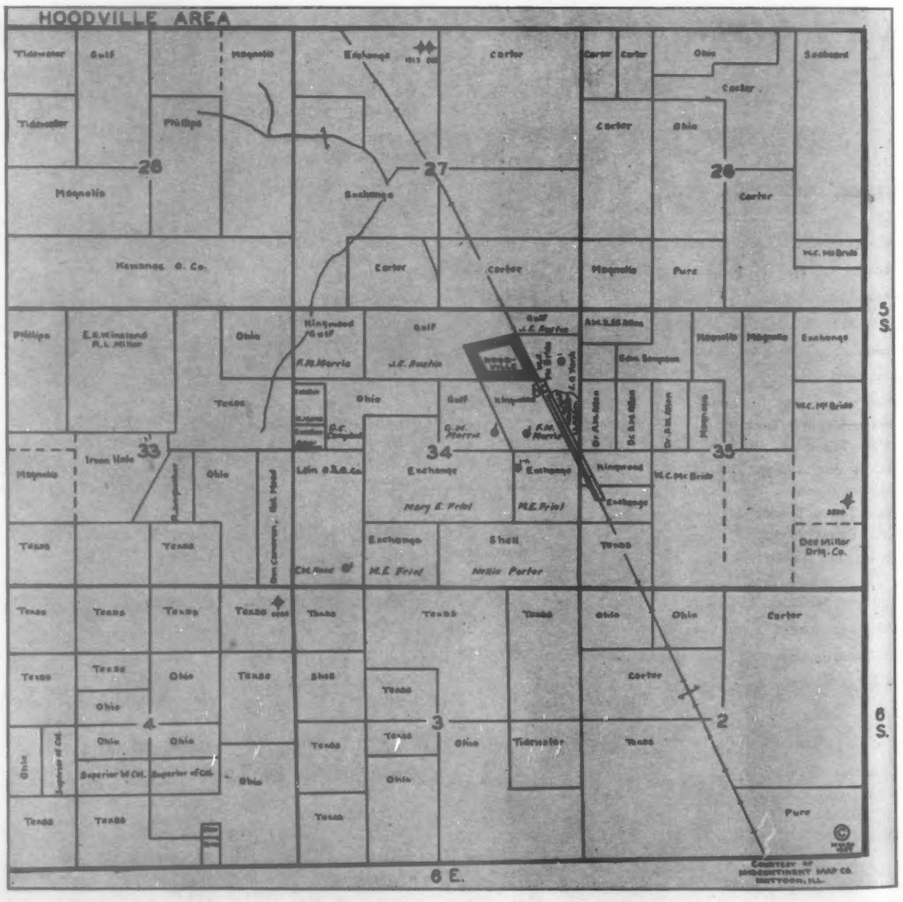
Texas, 1 Hawkins-Johnson ..... NW SE NW 5-1n-2e
Flowed 225 bbl., 5,000 gal. acid, Devonian 3,358 and 3,372-94 ft., T.D. 3,406 ft.

Texas, 10 Richardson ..... NW NW SW 5-1n-2e
Flowed 360 bbl., 5,000 gal. acid, Devonian 3,352 and 3,382-90 ft., T.D. 3,396 ft.

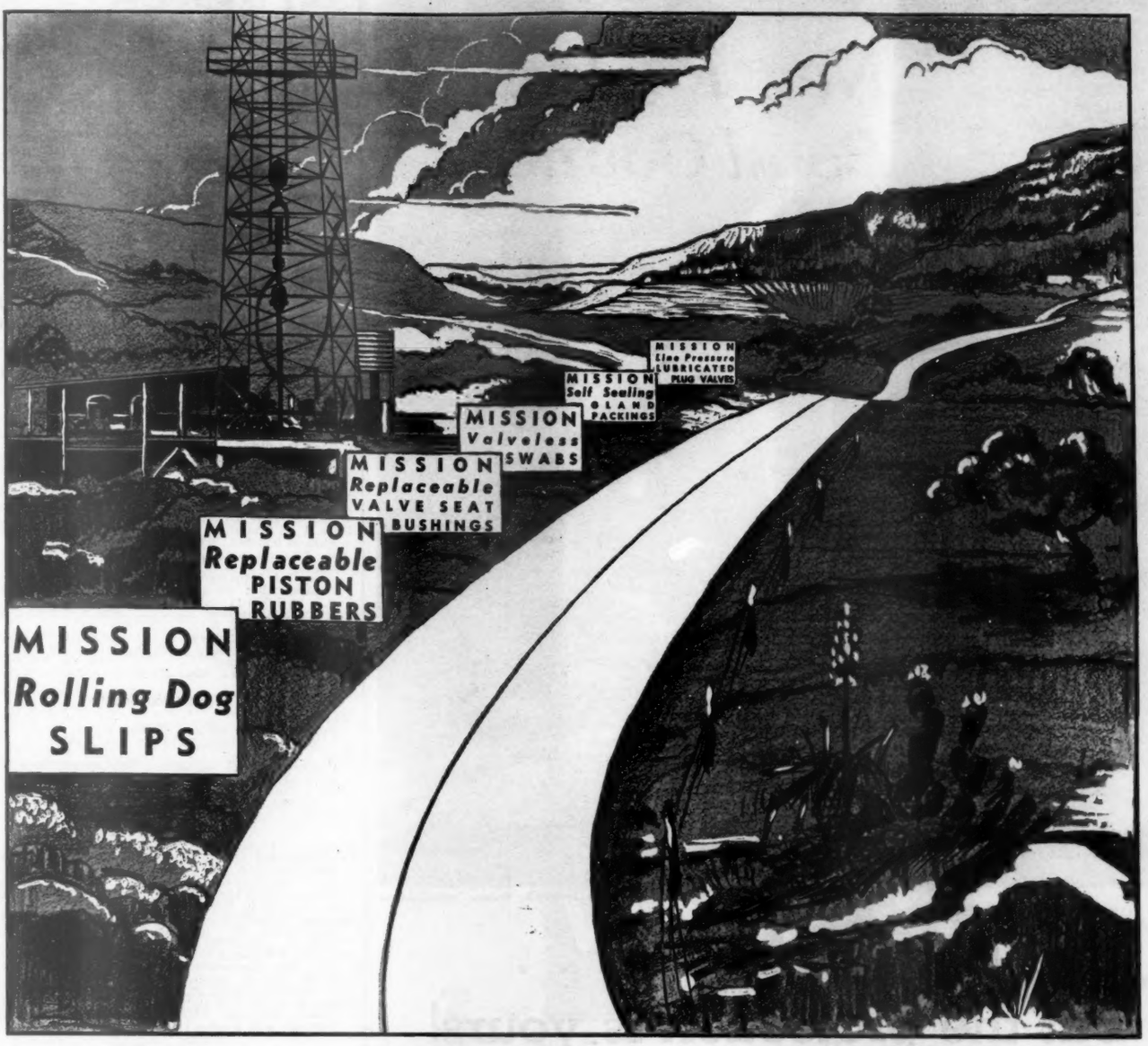
Texas, 11 Richardson ..... NE NW SW 5-1n-2e
Flowed 500 bbl., 5,000 gal. acid, Devonian 3,377 and 3,390-3,405 ft., T.D. 3,415 ft.

Texas, 21 E. Tate ..... NE NW NW 5-1n-2e
Flowed 800 bbl., 5,000 gal. acid, Devonian 3,352-83 ft., top Silurian 3,860 ft., Maquoketa 4,307 ft., T.D. 4,340 ft., P.B. to 3,430 ft.

Texas, 2 E. Bell ..... SE SW SW 6-1n-2e



Benoist production was brought in for the first time by Exchange, 1 Friel, NW NE SE 34-5s-6e. Kingwood's Devonian test was also plugged back to make a producer in the same formation



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Flowed 175 bbl., 2,000 gal. acid, Salem 2,285 ft., pay 2,072-80 ft. (McClosky), 2,300-15, 2,360-75 ft., T.D. 2,395 ft., P.B. to 2,335 ft.

Texas, 21 J. Canull ..... W½ SE NE 6-1n-2e
Flowed 661 bbl., 5,000 gal. acid, Devonian 3,340 ft. and 3,358-72 ft., T.D. 3,379 ft.

Texas, 18 G. S. Johnson ..... W½ SW SE 6-1n-2e
Pumped 210 bbl. oil and 48 bbl. water, McClosky 1,917-21 and 1,935-70 ft., Salem 2,165 ft., T.D. 2,315 ft., P.B. to 2,280 ft.

Texas, 19 G. S. Johnson ..... SE NE NW 6-1n-2e
Pumped 112 bbl., Aux Vases 1,852 ft., T.D. 1,870 ft.

Texas, 20 G. S. Johnson ..... E½ NW SE 6-1n-2e
Flowed 400 bbl., 5,000 gal. acid, Devonian 3,361 and 3,371-85 ft., T.D. 3,395 ft.

Texas, 21 G. S. Johnson ..... NE SW SE 6-1n-2e
Flowed 395 bbl., 5,000 gal. acid, Devonian 3,352 and 3,365-77 ft., T.D. 3,379 ft.

Texas, 31 O. Johnson ..... W½ NE SE 6-1n-2e
Flowed 290 bbl., 5,000 gal. acid, Devonian 3,350-81 ft., T.D. 3,390 ft.

Texas, 9 C. Richards ..... E½ NE SE 6-1n-2e
Flowed 286 bbl., 5,000 gal. acid, Devonian 3,350 and 3,370-80 ft., T.D. 3,400 ft.

Texas, 3 M. Murray ..... SE NW SW 7-1n-2e
Pumped 21 bbl., 2,000 gal. acid, McClosky 2,094-98 and 2,118-25 ft., T.D. 2,133 ft.

Montgomery County

Henderson Bros., 1 Orling .... NW SW NW 30-10n-4w
Dry. Elev. 644 ft., T.D. 552 ft.

Shelby County

Leroy Trulock, 1 H. Lantz ..... SE SE SE 36-13n-2e
Dry. Elev. 636 ft., T.D. 1,035 ft.

Richland County

DeKalb, 5 C. Schilling ..... S½ SW SE 32-4n-9e
Pumped 62 bbl. oil and ½ bbl. water; perf. 2,590-2,608 ft.; old T.D. 3,022 ft., P.B. to 2,615 ft.

Pure, 1 Kropp Consol. ..... S½ NW SE 6-4n-10e
Dry. Perf. 2,431-55 and 2,521-33 ft., Cypress 2,497 ft., old T.D. 2,920 ft., P.B. to 2,842 ft.

Pure, 1 Gray A ..... E½ NE NW 7-4n-10e
Flowed 226 bbl., 5,000 gal. acid, McClosky 2,880-84, 2,890-92 and 2,898-2,903 ft., T.D. 2,912 ft.

Pure, 1 G. Wachtel ..... NW NW NW 18-4n-10e
Flowed 953 bbl., natural, McClosky 2,925-36 ft.

Wabash County

Leighty 1-A Litherland ..... NW SW NW 8-1n-12w
Junked. Shot 40 qt. 1,531-50 ft., old T.D. 1,561 ft., P.B. to 1,550 ft.

Leighty, 2 Litherland ..... SW NW NW 8-1n-12w
Dry. T.D. 1,575 ft.

Wheatley, 1 Featherley ..... NE NE SE 28-1s-13w
Dry. Ste. Genevieve 2,606 ft., T.D. 2,750 ft.

Kingwood, 4 Bump ..... NE SE NW 9-2s-13w
Pumped 175 bbl., shot 20 qt., 2,410-20 ft., T.D. 2,529 ft.

Washington County

May, 6 Gill est. ..... NE NW NW 26-3s-3w
Pumped 8 bbl. oil and 46 bbl. water, shot 10 qt. at 1,288-94 ft., Benoist 1,257 ft., T.D. 1,297 ft.

May, 7 Gill ..... NE NW NW 26-3s-3w
Pumped 40 bbl. oil and 9 bbl. water, shot 10 qt., 1,277-82 ft., Benoist 1,242 ft., T.D. 1,284 ft.

Gulf, 4 Buhl ..... W½ SE SW 23-1s-1w
400 bbl., 1,000 and 4,000 gal. acid, Devonian 3,135-50 ft.

Wayne County

Pure, 6 J. Hubble ..... W½ NW SW 4-1n-8e
Flowed 340 bbl., 5,000 gal. acid, McClosky 3,012-22 and 3,113-18 ft., T.D. 3,126 ft.

Pure, 1 Barth Consol. ..... W½ NW SE 5-1n-8e
Flowed 1,033 bbl., 5,000 gal. acid, McClosky 3,030-50 ft., T.D. 3,140 ft.

Weinert, 6 McPherson ..... SE NE NW 3-2s-7e
Flowed 840 bbl., natural, 5,000 gal. acid, Rosiclaire 3,165 ft., pay 3,194-3,221 ft., T.D. 3,250 ft.

Rockhill, 7 Twist A ..... SW NW SW 33-2s-7e
Dry. Ste. Genevieve 3,233 ft., St. Louis 3,430 ft., Salem 3,773 ft., Louisiana 4,905 ft., Chattanooga 4,931 ft., Devonian 5,135 ft., T.D. 5,393 ft.

Dame O. & G., 2 Vaughn ..... SW SE SW 26-2s-8e
Flowed 800 bbl., 5,000 gal. acid, McClosky 3,371-81, 3,392-98, and 3,404-8 ft., T.D. 3,408 ft.

White County

Lavender et al, 1 E. McCullough ... SE NE NW 20-3s-8e
Pumped 7 bbl. oil and 40 bbl. water, Aux Vases 3,290-3,320 ft., Ste. Genevieve 3,356 ft., McClosky 3,440 ft., T.D. 3,449 ft., P.B. 3,306 ft.

Sun, 11 E. R. Greathouse ..... SW SE SW 33-4s-14w
Flowed 250 bbl., 5,000 gal. acid, McClosky 2,907-20 ft.

J. B. Fleming, 1 Holderman .... NE NE NW 13-6s-10e
Dry. Menard 2,007 ft., Cypress sand 2,575-84 ft. (slight show), Ste. Genevieve 2,865 ft., T.D. 2,975 ft.

WILDCAT OPERATIONS

Bond County

National Petroleum, 1 Spindler, which was drilled to 2,454 ft. in the Devonian and was plugged back to the Benoist, appears to be a pool opener in that formation. Several wells have been staked nearby and the operators have made location for their second well. The elevation of the well is 397 ft., and the following tops were recorded: Golconda 792 ft., Cypress 871 ft., Benoist 1,009-38 ft., Ste. Genevieve 1,097 ft., Chattanooga 2,256 ft., Devonian 2,323 ft. The well was plugged back to 1,021 ft. and swabbed 165 bbl. in 16 hours. It was then deepened to 1,026 ft., shot with 40 qt. and swabbed 16 bbl. per hour for 20 hours. Put on the pump, the well produced 192 bbl. It is not completed.

Magnolia, 1 W. H. Grigg ..... NE NE NE 9-6n-2w
Golconda 787 ft., Cypress 876 ft., Paint Creek 953 ft., Benoist 1,022 ft., drilling 1,036 ft.

Clark County

H. R. Snavely, 1 Schofield ..... SE NE SE 6-11n-11w
Trenton 3,272 ft., drilling 3,295 ft.

Allen & Sherritt, 2 Harper .... SW NW SW 5-11n-11w
Elev. 650 ft., Devonian 1,165 ft., show oil 1,320-60 ft., drilling 1,520 ft.

Harr & Hawley, 1 Pinnell ..... SE NW SE 6-11n-14w
Elev. 565 ft., Devonian 1,220 ft., Trenton 2,230 ft., drilling 2,595 ft.

Strickler, 1 McFarland.....NW NE SW 19-10n-13w T.D. 2,833 ft., P.B. 2,794 ft., show oil.

Clay County

Shulman Brothers, 1 Hardy.....E½ NE NE 16-3n-7e Glen Dean 2,430 ft., drilling 2,740 ft.

Clinton County

Centralia's two Trenton tests are still the center of interest. Ames-Hicks, 2 Brown, the well which reported production from the Trenton plugged back 3 ft., to a new total depth of 4,120 ft. After swabbing down, the well filled 2,100 ft. in 43 hours. It was shot with 80 qt. from 4,060-4,120 ft. and is reported to be slowly filling. The second Trenton test, G. Borton et al, 1 Storer, SW NW NE 13-1n-1e, was drilling at 3,094 ft.

Thompson, 1 Knolhoff.....NW NW SW 11-1n-2w Elev. 444 ft., Cypress 1,175 ft., no Benoist.
E. F. Jones, 1 Lippert.....S½ SE SE 27-2n-1e Elev. 485 ft., Glen Dean 1,117 ft., Devonian 2,938 ft., S.D. 2,970 ft.
F. S. Miller, 1 Schmidt.....E½ W½ SE 35-2n-5w Elev. 450 ft., Glen Dean 970 ft., Benoist 958 ft., 6⅝-in. 1,062 ft.
Ford, 1 Brink.....SE SW SE 3-1n-2w Elev. 435 ft., Bethel 1,312 ft., drilling 1,320 ft.

Crawford County

Bell Bros., 1 G. Hersey.....NE SE NE 1-5n-13w Saturated McClosky 1,416-27 ft., drill-stem test no oil, drilling 1,500 ft.

Edgar County

A. M. Meyers, 1 Stokes.....SW NW SE 22-14n-14w S.D. 720 ft.

Effingham County

Erwin & Barr, 1 Dammerman .SW NW SW 18-8n-4e Elev. 603 ft., sand 1,495 ft.
R. H. Troop, 1 Le Crone.....NW NW SW 7-8n-4e Glen Dean 1,374 ft., Cypress 1,540 ft., recovered 80 ft. oil on test, 7-in. casing 1,538 ft., T.D. 1,548 ft.

Franklin County

E. S. Adkins, 1 Old Ben Coal .....NE SE SE 14-7s-3e Elev. 416 ft., Glen Dean 2,065 ft., Ste. Genevieve 2,625 ft., drilling 2,855 ft.

Hamilton County

Exchange, 1-A Friel, NW NE SE 34-5s-6e, found oil in the Benoist sand at 2,941-70 ft. This marks the first Benoist oil in this district and adds another producing sand to the area. The well was drilled to 2,969 ft. and plugged back to 2,966 ft. where it swabbed 654 bbl. of oil and 64 bbl. of water. It is still testing. Kingwood, 1 Morris, SW SE NE 34-5s-6e, which had formerly tried to make a producer in the McClosky at a total depth of 3,299 ft., was plugged back to 3,120 ft., and a test was made of the Benoist sand which was topped at 2,946 ft. The well flowed 343 bbl. in 20 hours with a trace of basic sediment and water.

Iroquois County

Whitlow, 1 Gannon.....NE SW SE 5-27n-12w Elev. 642 ft., Devonian 215 ft., Silurian 380 ft., Galena (Trenton) 1,045 ft., S.D. 1,485 ft.

Jackson County

Trumbull, 1 Bennett.....C SL 35-8s-5w Elev. 432 ft., Trenton 2,756 ft.

Jasper County

Johnson 1, Mendenhall.....SW SW SE 17-8n-10e Old T.D. 2,062 ft., Glen Dean 2,070 ft., Cypress 2,210 ft., Paint Creek 2,333 ft., Benoist 2,380 ft., Ste. Genevieve 2,478 ft., Rosiclare 2,815 ft., Fredonia 2,532 ft., S.D. 2,557 ft.

Jefferson County

Young, 1 Whittington.....SE SE SW 30-4s-3e Elev. 414 ft., Benoist 2,697 ft., Ste. Genevieve 2,805 ft., St. Louuis 2,660 ft., T.D. 3,472 ft., P.B. to 2,660 ft. to test show.

Knox County

Lomax, 1 Nelson.....SE SW NE 20-10n-1e Hole full of water 1,355 ft., S.D.

Macoupin County

Lee & Cover, 1 Banning.....NE SW SW 12-10n-6w Sand 610-12½ ft., no show, S.D. 640 ft.

Massac County

Kahle, 1 Harwick.....SW SW SW 23-14s-3e Elev. 345 ft., Devonian 1,715 ft., Trenton 2,850 ft., T.D. 3,030 ft.

Montgomery County

Montgomery County's second pool opener, Basler Inv., 1 Street, was testing at 616 ft., and erecting storage. Several locations have been staked in the area and a revival of drilling activity will probably follow.

Perry County

Blankenship, 1 City Park.....NE NE SE 13-5s-3w Elev. 420 ft., Ste. Genevieve 1,403 ft., Salem 1,771 ft., Osage 2,275 ft., S.D. 2,670 ft.
Stanolind, 1 W. R. Kimsey.....SW NW SE 4-5s-1w Base Pennsylvanian 700 ft., Cypress sand 1,175 ft., Benoist 1,355 ft., Aux Vases 1,430 ft., Ste. Genevieve 1,495 ft., St. Louis 1,740 ft., drilling 1,925 ft.
C. Robinson, 1 Gruner.....NE NW SE 14-5s-3w Golconda 1,135 ft., drilling 1,250 ft.

Randolph County

Christian & Wagner, 1 Waltemaler..NW NE 25-7s-6w St. Louis 1,011 ft., T.D. 1,024 ft., drilled plug and tested water.
R. H. Anderson, 1 Cassant.....SW NW SW 16-7s-7w Elev. 363 ft., Maquoketa 1,415 ft., Trenton 1,555 ft., drilling 1,638 ft., reported show of oil from 1,555-1,638 ft., no porosity.

Saline County

Parker & Son, 1 fee.....NW SW SE 8-10s-5e

(Continued on Page 99)

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Test Discovery in Ellinwood Area; Zenith Pool Extended

By
DAL DALRYMPLE

COMPLETION of a discovery well about 1½ miles northwest of the West Ellinwood pool in Barton County, Kansas, was scheduled for this week, after tests over the week end were concluded. The discovery is C. L. Carlock and Aladdin Petroleum Co., 1 Hammer, CNL NE NW 35-19-12w. It was drilled into Arbuckle formation at 3,347 ft., was bottomed at 3,371 ft., was acidized with 2,000 gal. and it was swabbed at the rate of 5 to 6 bbl. of oil an hour prior to beginning of completion tests. It was estimated good for 100 bbl. daily. Nearest production is in the Wolf pool sector of the West Ellinwood field in Section 36.

Extension of the Zenith field in Stafford County was indicated at Deep Rock Oil Corp., 1 Henry, CEL SE SW 3-24-11w, northwest of production. It found Viola lime at 3,733-98 ft., was treated with 3,000 gal. of acid and operators were preparing for a drawdown potential test. On preliminary tests it produced 320 bbl. of oil and some water in 9 hours, with water declining as testing continued.

Discovery well of the Stafford pool, Stafford County, was completed the past week for a daily potential of 3,000 bbl. after acidizing. It is the Stanolind Oil & Gas Co., 1-A Charles, N½ NE SE 15-24-12w.

Stanolind Oil & Gas Co. continued efforts to restore circulation in No. 1 Judd, C SE SE 15-21-38w, important wildcat northwest of Lakin, in Kearny County, at 5,681 ft.

Considerable drilling activity is reported in northeastern Kansas in and near the Forest City basin. E. C. Heim and others have started work at a Jefferson County test in 9-11-19, and Dan McLaughlin and associates completed a dry hole in 29-9-16, same county, and were drilling another test in 5-10-20. S. W. Forrester continued work at his Douglas County tests in 35-12-20 and 9-14-19, and T. Goff completed No. 1 Nies, C NE SW 3-13-21, at 700 ft. for 250,000 cu. ft. of gas. Keriyn Oil Co. resumed work at a Leavenworth County test in 23-12-20. F. J. Kasper, trustee, and Sagamore Oil & Gas Co. continued development of their properties in the Kathes gas field, Johnson County.

KANSAS COMPLETIONS

Wildcats

Barton County: Jack Robertson and others, 1 Miller, CWL SW NE 4-16-14w. Arbuckle 3,428-33 ft., T.D. Dry.

Ellsworth County: Cities Service, 1 Essick, NE NE NE 25-16-8w. Arbuckle 3,445 ft., T.D. 3,512 ft. Dry.

Stafford County: Stanolind, 1-A Charles, N½ NE SE 15-24-12w. Lansing 3,463 ft., Viola 3,815 ft., Simpson 3,935 ft., Arbuckle 3,994 ft., T.D. 4,021 ft., P.B. 3,386 ft., shot 3,815-50 ft., acidized with 3,000 gal., flowed 176 bbl. in 2 hours, potential 3,000 bbl., gravity 46°. The discovery is about 6 miles west of the Zenith field and 4 miles east of the St. John pool.

Barton County

Ellinwood district: Derby, 1-A State, NW SW NE 36-19-12w. In Arkansas River bed, T.D. 3,366 in Arbuckle, 360 bbl.

Krier pool: Derby, 2 Esfeld, NE SW NW 29-16-11w. Gorham sand, T.D. 3,337 ft., 45 bbl.

Prusa district: Black-Marshall, 1 Hoffman, NE NE SE 13-16-12w. T.D. 3,306 ft., potential 3,000 bbl.

Otis field: Ohio, 1 Bahr, C NE 19-18-15w. Basal sand, T.D. 3,510 ft., gaged 6,314,000 cu. ft. gas.

Trapp field: E. K. Wakefield, 1 Karst, CEL SE SW 11-16-14w. Arbuckle, T.D. 3,396 ft., 92 bbl. Extends field ½ mile southwest.

Butler County

Brandt pool: Adair & Morton, 1 Baker, SE SE NE NE 16-28-7. Mississippi 2,688 ft., T.D. 2,826 ft. Dry.

Haslett pool: Ward McGinnis, 1 Condell, SE SE NW 12-24-4. Mississippi, T.D. 2,530 ft., pumped 10 bbl.

Ellis County

Burnett field: Shell, 2 Riddler, NW SW NW 12-11-18w. Arbuckle, T.D. 3,507 ft., potential 3,000 bbl.

Dickey, 3 Husted, CSL NE SW 18-11-18w. T.D. 3,354 ft. in Arbuckle, acidized, potential 2,466 bbl.

Skelly, 6 Kempe, CNL SE NW 12-11-18w. T.D. 3,427 ft. in Arbuckle, potential 3,000 bbl.

Bemis field: Cities Service, 3 Colahan, NW SW SW 24-11-17w. T.D. 3,565 ft. in Arbuckle, potential 3,000 bbl.

Marshall pool: Lario, 8 Marshall, E½ NE SW 31-11-17w. T.D. 3,668 ft. in Arbuckle, acidized, 2,564 bbl. on retest potential.

Ellsworth County

Stoltenberg pool: Herndon Drilling, 1 Novotny, E½ NE NE 18-16-10w. T.D. 3,405 ft. in Arbuckle, 427 bbl.

Palmer Oil, 1-A Stoltenberg, S½ SE NW 27-16-10w. T.D. 3,273 ft. in Arbuckle, 780 bbl.

Duwe & Farris, 1 Horejsi, N½ NW SW 17-16-10w. T.D. 3,394 ft. in Arbuckle, 622 bbl.

Palmer & King, 2-B Stoltenberg, CNL SE NW 27-16-10w. T.D. 3,313 ft. in Arbuckle, acidized, potential 3,000 bbl.

Texas, 1 Brown, NE SE NW 20-16-10w. T.D. 3,359 ft. in Arbuckle, 47 bbl.

Stratman pool: Pryor & Lockhart, 4 Stratman, NW NW 1-17-10w. T.D. 3,315 ft. in Arbuckle. Dry.

Wilkins pool: Gulf, 2 Mehl, CSL SW NE 18-17-9w. T.D. 3,265 ft. in Arbuckle, acidized, potential 3,000 bbl.

McPherson County

Bornholdt field: E. K. Carey, 2 Knackstedt, CNL SE SW 30-20-5w. T.D. 3,305 ft. in chat, 48 bbl.

W. H. Moulton, 3 Bornholdt, N½ SW SE 30-20-5w. T.D. 3,335 ft. in chat, 50 bbl.

Stanolind, 5 Mattson, S½ NE SW 19-20-5w. T.D. 3,312 ft. in chat, 3,000 bbl. on retest potential.

Hartman & Pem Drilling, 2 Swanson, N½ SW SW 18-20-5w. T.D. 3,350 ft. in chat, 51 bbl.

Rice County

Bornholdt field: C. L. Carlock and others, 1 Duvall, N½ NE NW 13-20-6w. Rig abandoned.

Rooks County

Laton field: O. F. Krueger, 1-B Tatkenhorst, CNL NW NE 10-9-16w. T.D. 3,206 ft. in Lansing, acidized, potential 3,000 bbl.

Same operator, 3-C Tatkenhorst, CNL NW SW 11-9-16w. T.D. 3,185 ft. in Lansing, acidized, potential 2,431 bbl.

Clay Brothers, 2 Livingood, CNL SE NW 11-9-16w. T.D. 3,260 ft. in Arbuckle, acidized, 1,073 bbl. on retest potential.

Russell County

Hall-Gurney field: Skelly, 4 Rein, SW SW 25-14-14w. T.D. 3,006 ft. in Lansing, acidized, potential 2,308 bbl.

Stanolind, 4 Michel, C NE NW 36-14-14w. T.D. 2,980 ft. in Lansing, acidized, 970 bbl.

Stanolind, 5 Rein, N½ NE NW 25-14-14w. T.D. 2,312 ft., 450 bbl.

Coralena, 1 Flickenger, S½ SE SE 23-14-13w. T.D. 3,172 ft., 15 bbl.

Texon, 4 Hall, C SE 26-14-13w. T.D. 2,915 ft., 743 bbl.

Skelly, 1 Ehrlich, S½ SW SW 32-14-13w. T.D. 2,915 ft., 1,543 bbl.

Phil-Han Oil, 3 Letsch, SE SE NE 34-14-13w. T.D. 2,854 ft., potential 3,521 bbl.

Trapp field: R. H. Shields, 3 Rogg, CSL SW NW 9-15-13w. T.D. 3,032 ft. in Lansing, acidized, potential 1,810 bbl.

Stafford County

South Sittner field: Stanolind, 6-A Hitz, E½ SE NW 2-22-12w. T.D. 3,558 ft. in Arbuckle, acidized, potential 3,000 bbl.

Zenith field: Sinclair Prairie, 2 Krey, NW NW 14-24-11w. T.D. 3,826 ft. in Misener, acidized, potential 3,000 bbl.

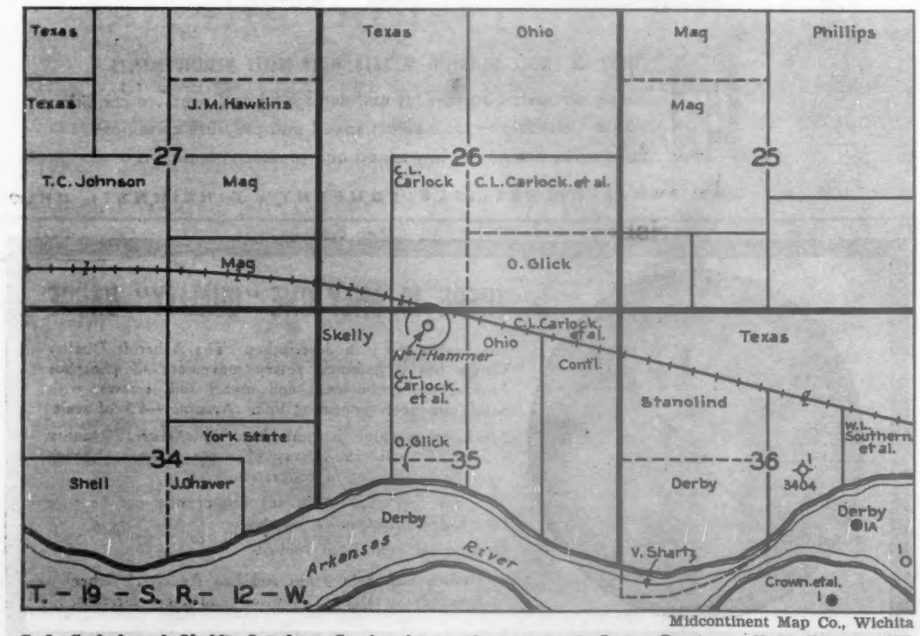
Republic Natural Gas, 1 McNickle, S½ SW NE 2-24-11w. T.D. 3,722 ft. in pre-Pennsylvanian, 88 bbl.

Stanolind, 1 Richardson, CEL NE NW 10-24-11w. T.D. 3,802 ft. in pre-Pennsylvanian, acidized, 835 bbl.

Estimated Daily Production

Estimated daily production for Kansas for the week ended August 10, and for the preceding week, was as follows:

	Barrels	
	Aug. 10	Aug. 3
Oxford City	650	750
Burrton	6,700	7,800
Ritz-Canton	3,450	3,500
Graber	2,000	1,950
Hollow-Nikkel	1,200	1,550
Lerado	750	450
Voshell	1,450	1,650
Wellington	1,400	1,750
Ellsworth County:		
Lorraine	1,650	1,350
Other pools	3,160	3,375
Rice-Barton counties:		
Bloomer	2,100	3,500
Chase	4,050	3,600
Geneseo	3,650	2,850
Raymond	1,000	1,200
Silica	12,200	13,650
Keesling	850	1,000
Wherry	2,900	2,800
Miscellaneous Rice	1,350	3,610
Miscellaneous Barton	7,505	9,175
Trapp district	12,750	13,000
Balance Russell County	18,050	19,350
Sedgwick County	3,050	3,100
Ellis County:		
Bemis	10,100	12,900
Miscellaneous	7,120	8,190
Kingman County	650	525
Stafford County	10,420	12,205
Greenwood County	7,950	8,050
Eldorado	7,400	7,450
Other fields	33,645	32,870
Total Kansas	169,150	183,150



Midcontinent Map Co., Wichita

C. L. Carlock and Aladdin Petroleum Co. found a productive area in Barton County at No. 1 Hammer, CNL NE NW 35-19-12w, and were taking potential test after acidizing Arbuckle lime at 3,347-71 ft. Location is about 1½ miles northwest of the Wolf sector of the West Ellinwood field

FIRST REPORTS

Barton County

Texas, 3 Petz ..... CNL SE SE 7-20-11w
Bodine Drlg., 2 Herter ..... CWL SE 8-20-11w
Buchanan et al, 2 Langford ..... C S½ SE SW 14-20-11w
Chaplin Ref., 2 Clawson ..... NL NW NW 17-20-11w
Gulf, 4 Kasselman ..... NL NE SW 23-20-11w
I.T.I.O., 3 Bryant ..... SL NW SE 23-20-11w
Sharon Drlg., 2 Luerman ..... C N½ SE SE 18-16-13w
Feeys & Hoyt, 1 Schreiber ..... C S½ N½ SW 17-18-15w

Butler County

Blakeslee et al, 2-A Wilson ..... SW SW NE 28-27-4
Sooby & Keene, 1 Evans ..... NW NW NE 8-29-4

Daryl Oil, 1 Creed .....SE SE SW 17-29-4
Simpson Oil, 1 Piper .....SW NE SW 17-29-4
Simpson Oil, 2 Piper .....SE NE SW 17-29-4

Ellis County

Cities Service, 18 Colahan ....NW SE SE 24-11-17w
Phillips, 6 Peavy .....SL NE SE 13-11-18w

Jefferson County

D. W. McLaughlin, 3 Dark .....C SE NE 5-10-20

Lyon County

Wildcat: Connell & McKnab, 1-B McKee .....
SE NE NE 32-21-11

Leavenworth County

Wildcat: Kerlyn, 1 Hemphill (O.W.D.D.) .....
NE NE NW 23-12-20

McPherson County

Continental, 5 Mattson .....C S½ N½ NW 31-20-5w

Reno County

Colorado Syn., 3 Sabin .....SE NE NE 13-23-4w

Russell County

Cities Service, 3-B Bender .....SW NE SE 23-15-14w
Jones Bros., 2 Mahoney .....NL SW SW 8-14-12w
Shell, 2 Major .....SW NW NE 4-15-12w
Shell, 1-B Michaelis .....CWL SE 33-15-13w

Rooks County

Broadview et al, 6 Livingood ....NL SW NW 11-9-16w

Stafford County

Stanolind, 1 Voigt .....EL NW SW 11-22-12w
Stanolind, 8 McComb .....NL NW NW 12-24-11w
Sinclair, 5 Krey (O.W.D.D.) ....NE NW NE 14-24-11w

Woodson County

Braden et al, 4 Arnold .....SE SW NE 35-23-14

WILDCAT DRILLING REPORT

Butler County

McDaniel, 1 Eckel .....NW NE NW 7-27-7
Kansas City 2,184-89 ft., T.D., 700 ft. O.I.H.
Jocelyn, Murfin et al, 1 Hall .... CSL NE SW 7-29-7
Mississippi 2,825 ft., drlg. 2,850 ft.

Cowley County

McKnab, 1 McKown .....NE NE SW 31-33-5
Mississippi 3,122 ft., S.S.O., drlg. 3,245 ft.

Ellsworth County

Billings, 1 Vanek.....SW SW SE 25-14-10w
Lansing 2,770 ft., S.S.O. 2,855-67 ft., Arbuckle 3,113 ft., T.D. 3,129 ft.

Phillips County

Cities Service, 1 Ray.....NE NW SE 32-5-20w
5-in. 3,603 ft., S.D.

Rooks County

Aylward Prod., 1 Richards....CNL NW SW 31-10-18w
Lansing 3,195-3,214 ft., T.D., 7-in. 3,195 ft.

Rice County

Royer, Duwe & Farris, 1 Hutchins.....
CWL SW SE 29-21-8w
Lansing 2,950 ft., drlg. 3,177 ft.

Stafford County

Shell et al, 1 Riley.....SW cor. 28-23-11w
Fort Riley 1,760 ft., Florence 1,855 ft., drlg. 2,865 ft.
Shell, 1 Bean .....SE SE SW 21-23-12w
Lansing 3,396 ft., Sooy 3,706 ft., Viola 3,714 ft., drlg. 3,724 ft.

Forest City Basin

ST. JOSEPH, Mo., Aug. 12.—Prospects appear good for two more producers in the Falls City pool, Richardson County, Nebraska. R. L. Campbell was expected to core Hunton lime early this week at his No. 1 Schock in Lot 4, 20-1n-16e, about 800 ft. south of Harry Harper's Sibbernsen producer. Skelly Oil Co. set surface pipe at 95 ft. and was drilling ahead at No. 1 Davisson, SW NW NE 20-1n-16e, east offset to the Sibbernsen well.

In the Salem area, Richardson County, M. J. Lewis has started work at No. 1 Wittwer, NW NE 22-1n-14e. East of Salem, Forest City Basin Syndicate shut down its No. 1 Windle, SE NE SE 3-1n-15e, below 1,600 ft. because of mechanical trouble. Uhri Oil Co.'s No. 1 Stauffer, SW SW NE 2-1n-13e, was unofficially reported at 1,600 ft. The Windle and Stauffer tests are being drilled with cable tools.

Frank Engles and others have spudded their No. 1 Wheeler, NE NE NE 9-4n-14e, Nemaha County, Nebraska. This is the third test started in that county.

Attention in the Missouri sector of the basin continued to center in Brin & Nathan, 1 Decker, C NW NW 1-61n-31w, Holt County. Operators have been trying for about 20 days to test what appeared to be a good showing of oil in Hunton lime at 2,310 ft., total depth. Seven-inch pipe was cemented at 2,300 ft., but a leak developed at 1,962 ft. Pipe was ripped at 1,980 ft. and cemented with 20 sacks, but the cement did not set. It was recemented with 50 sacks and operators were waiting.

E. H. Lawhon, 1 Gottschall, C SE SE 18-59-32w, DeKalb County, explored Hunton lime without result and was drilling ahead, details not being divulged. American Oil & Gas, 1 Thompson, SW SW 3-58-31w, same county, was shut down at 1,400 ft. In Livingston County, Chillicothe Syndicate, 1 Linton, C W½ SE 15-56-23w, topped St. Peter sand at 1,019 ft. and was

(Continued on Page 99)

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Open Oil Areas in Garfield, Osage; Extend St. Louis

By
DAL DALRYMPLE

HIGHLIGHTS of the past week in Oklahoma fields included completion of a discovery well in Osage County, extension of the St. Louis district in Pottawatomie County, development of a new pay zone in the old Chandler area of Lincoln County and indication of a discovery in Garfield County. Activity continued to increase in the Cumberland area of Marshall and Bryan counties, several new wildcats were reported in widely separated areas of the state and 35 new tests in proven areas were started.

Norbla Oil Co. and Oklahoma Natural Gas Co. completed No. 1 Osage, NE NE NW 25-22-9, to open a productive area about 1½ miles west of the Wildhorse field, Osage County. It found Arbuckle lime at 2,423 ft., total depth 2,449 ft., was acidized with 4,000 gal. and pumped 105 bbl. of oil daily.

The St. Louis district was extended about 1½ miles northwestward at the J. F. Smith et al, 1 Brown, NE SE NE 6-7-4. It flowed and swabbed 462 bbl. of oil in 24 hours after acidizing Hunton lime, then flowed 338 bbl. by heads through casing in 24 hours, and was shut in for connections. The hole was bottomed at 3,991 ft. and pipe was set at 3,959 ft.

Champlin Refining Co., 1 Kunkel, E½ SE NW 23-23-6w, wildcat northeast of Enid, Garfield County, continued swabbing tes' after acidizing with 10,000 gal. In one 24-hour period it produced 131 bbl. of oil and 50 bbl. of water. It topped Mississippi lime at 6,070 ft., total depth 6,930 ft. and plugged back to 6,190 ft.

Magnolia Petroleum Co. opened a new producing zone in the old Chandler field, Lincoln County, at No. 10 Ross, SE NE SE 2-14-3. It was plugged back from Skinner sand, original producing zone in the field, to Oswego lime and perforated casing at 3,955-91 ft. It was treated with 1,000 gal. of acid and flowed from 25 to 35 bbl. of oil an hour for 12 hours and was pinched back. There are about 30 wells in the field which have been producing from the Skinner formation. Nearly all of them found saturated Oswego lime when drilled but passed it up for the deeper pay. Several of them are expected to be plugged back to the new producing horizon. Skinner production in the area is found at around 4,100 ft.

Pure Oil Co. announced two new locations in the Cumberland area of Marshall and Bryan counties, and was preparing to swab the No. 1 Little B-101, after reaming 9-in. hole to 5,123 ft. and plugging back to 5,087 ft. Location is in NE SW SE 28-5s-7. The company's No. 1 Thomas 102, SW NE NW 28-5s-7, which extended production ½ mile northwestward, was on production at 5,091 ft., total depth. On a week-end gage, it flowed more than 810 bbl. of oil through 9/64-in. choke in 24 hours, with 625 lb. casing pressure and 875 lb. tubing pressure. The No. 1 Stewart 103, SW SE NE 28-5s-7, on the Bryan County side of the pool, was bottomed at 5,090 ft., flowed more than 597 bbl. through 15/64-in. choke on tubing, with 1,700 lb. casing pressure and 760 lb. pressure on tubing. It was bottomed at 5,090 ft. Operations were going ahead at nine other tests in the area. The Pure Co. is building a camp, district office and warehouse near Little City, new town in the area.

OKLAHOMA COMPLETIONS

WILDCATS

Kay County: Alma and others, 1 Livergood, NE NE NW 29-28-2e. Arbuckle 4,170 ft., T.D. 4,181 ft.; junked hole; abandoned.
Kiowa County: Gene Burke, 1 Morganse, NW NW SW 6-2n-16w. Gabbro 485-1,035 ft., T.D. Dry.
Okfuskee County: Reese Drilling and others, 1 Berryman, NW SW SW 36-11-8. Earlsboro 2,518 ft., Booch 3,089 ft., Gilcrease 3,235 ft., Cromwell 3,462-76 ft., T.D. Flowed 552 bbl., tubing, in 24 hours.
Oklahoma County: Continental, 1 Remund, SE SE NE 24-14-4w. First Wilcox 6,647 ft., second Wilcox 6,742 ft., T.D. 6,785 ft. Dry.
Osage County: Norbla and Oklahoma Natural, 1 Osage, NE NE NW 25-22-9. Hominy-Wilcox 2,415 ft., Arbuckle 2,423-49 ft., T.D. Acidized with 4,000 gal., pumped 105 bbl., gravity 38°.
Pontotoc County: D. Garrett, 1 Williams, NE NE NE 28-2n-4. McLish 183 ft., T.D. 570 ft. Dry.
Roy Starr and W. C. McBride, 1 State, SE SE NW 32-5-4. Viola 2,360-2,535 ft., T.D. Dry.

Beaver County

Wildcat: World Petroleum, 1 Kirton, C SE SE 23-3n-21ecm. T.D. 3,026 ft. Dry.

Caddo County

Cement field: Continental Drilling, 2 Wagner, NE NW SW 12-5-9w. Noble-Olson 3,186 ft., T.D. 3,205 ft. Potential 400 bbl., swabbing.

Carter County

Hewitt field: Gibson, 1 Hoover, NW SW SE 20-4s-2w. Seven-inch 2,030 ft., T.D. 2,051 ft., shot 2,041-51 ft. Pumped 150 bbl.
Wheeler field: Barrett, 1 Hall, SE NW SE 20-3s-2w. T.D. 305 ft. Dry.

Coal County

Clarita pool: Andy, 1 Whitney, SW SW NE 26-1n-8. T.D. 800 ft. Dry.

Creek County

Mannford district: Thomas and others, 2 Charbonnette, C SE SE 36-18-9. T.D. 1,926 ft. Pumped 12 bbl.
Tuskegee district: Vierson, 1 Replogle, NW SW NE 24-14-10. Dutcher 2,597 ft., lower Dutcher 2,608 ft., T.D. 2,634 ft. Flowed 185 bbl., 27 gravity.

Jackson County

Altus field: Gulf, 4 Herbert, NE SE SE 9-1n-20w. T.D. 1,542 ft. Pumped 110 bbl.

Marshall County

Isom Springs pool: Hewett Trust, 1 Adams, NW NE NE 8-8-6. T.D. 560 ft. Pumped 8 bbl.
Hewett Trust, 4 Adams, SE SE SW SE 31-7s-6e. T.D. 555 ft. Pumped 20 bbl.

Noble County

Billings field: Phillips, 70 Billings Unit, SE SE SE 21-23-2w. Wilcox 4,313 ft., 7-in. 4,310 ft., T.D. 4,355 ft., potential 1,762 bbl.
Phillips, 73 Billings Unit, NE SW SW 22-23-2w. Wilcox 4,306 ft., 2½-in. 4,307 ft., T.D. 4,341 ft. Potential 3,509 bbl., 2,120,000 cu. ft. gas.

Okfuskee County

Dill pool: John Droppleman, 1-B Dill, SW SW SW 35-12-8. Union Valley 3,535 ft., 5-in. 3,540 ft., T.D. 3,580 ft. Flowed 1,101 bbl.

Okmulgee County

Bald Hill district: Price & Warner, 8-A Warner, SE NE NE 21-14-14. T.D. 1,118 ft. Pumped 3 bbl.
P. Atkins, 1 Walls, SW NW NE 32-14-14. T.D. 1,345 ft. Pumped 3 bbl.
Francis Oil, 5-A Adams, SE SE NW 33-15-14. T.D. 1,685 ft. Pumped 13 bbl.
Mounds area: Henshaw, 1 Beard, SW SE SW 30-16-12. Old well, plugged back from 2,696 ft. to Booch at 1,362-88 ft. Dry.

Osage County

Osage City pool: Finance Oil, 20 Osage, NE NE NE 2-21-9. T.D. 1,459 ft. Pumped 14 bbl.
South Burbank field: Carter, 5 Fletcher, NE NW NW 10-25-6. Old well deepened from top of Burbank sand at 2,675 ft. to 2,748 ft. Flowed 40 bbl.
Tidal-Osage pool: Powers & Quinlan, 5 Osage, NW NW NE 35-24-8. T.D. 2,535 ft. Dry.

Pawnee County

Keystone district: E. S. Hoss, 1-A McCallum, SE SE SW NW 14-20-9. T.D. 2,197 ft. Gaged 1,039,000 cu. ft. gas.
Maramec area: Indian Territory, 2 Dunham, CSL SW 27-20-6. Prue 2,698 ft., Bartlesville 3,055 ft., T.D. 3,062 ft., P.B. 2,750 ft., shot 2,734-50 ft. Pumped 11 bbl. oil and 20 bbl. water.

Payne County

West Norfolk pool: Pure, 2 Kennedy, SE NE NW 9-18-5. Old well plugged back from 3,604 ft. to 3,425 ft.; est. 10,000,000 cu. ft. gas.

Pontotoc County

Bebee field: Hall, 1 Norvell, C S½ SE SW 27-5-4. Location abandoned.

Pottawatomie County

King area: George Pace, 1 Jones, SE SE SE 30-10-5. Set 12-in. 100 ft. Abandoned.
George Pace, 1 Readdy, SE SW SE 30-10-5. Set 12-in. 100 ft. Abandoned.
George Pace, 1 Readdy, SE SE NW 31-10-5. Set 12-in. 100 ft. Abandoned.
North Shawnee pool: Atlantic, 1 Washington, SE NE NE 24-11-4. Wilcox 4,837-59 ft., T.D. Flowed 137 bbl., 34 gravity.
Shawnee pool: Ray Dunnett, 4 Rodgers, NW SE SW 31-11-4. Sand 4,471 ft., T.D. 4,503 ft., shot 4,493-4,503 ft. Swabbed 306 bbl.
St. Louis field: R. H. Vise, 1-A Richardson, SW NE SW 16-7-4. T.D. 3,316 ft. Pumped 50 bbl.

Seminole County

Fish field: Winona, 2 Horton, SE SW NE 18-7-8. Location abandoned.
Mission field: Morgan, 1 Hayes, NW NE SE 8-8-6. Mississippian Caney 3,520 ft., T.D. 3,605 ft. Dry.
Little River district: Sinclair Prairie, 9 Gibson, NE SE NW 14-7-6. Sand 3,170 ft., 7-in. 3,171 ft., T.D. 3,189 ft., shot 3,185-87 ft. Swabbed 188 bbl. in 24 hours, pumped 140 bbl., cutting 6 per cent.
Newson, 1 Oaks, SW NE SW 16-7-6. Wilcox 4,442-47 ft., T.D. Shot in sand. Pumped 72 bbl. oil and 100 bbl. water.
Shepard, 5 Scroggins, NW SW SW 34-7-6. Senora lime 2,460 ft., sand 2,873 ft., T.D. 2,884 ft., shot 2,011-29 ft. Pumped 31 bbl. oil and 10 bbl. water.

Stephens County

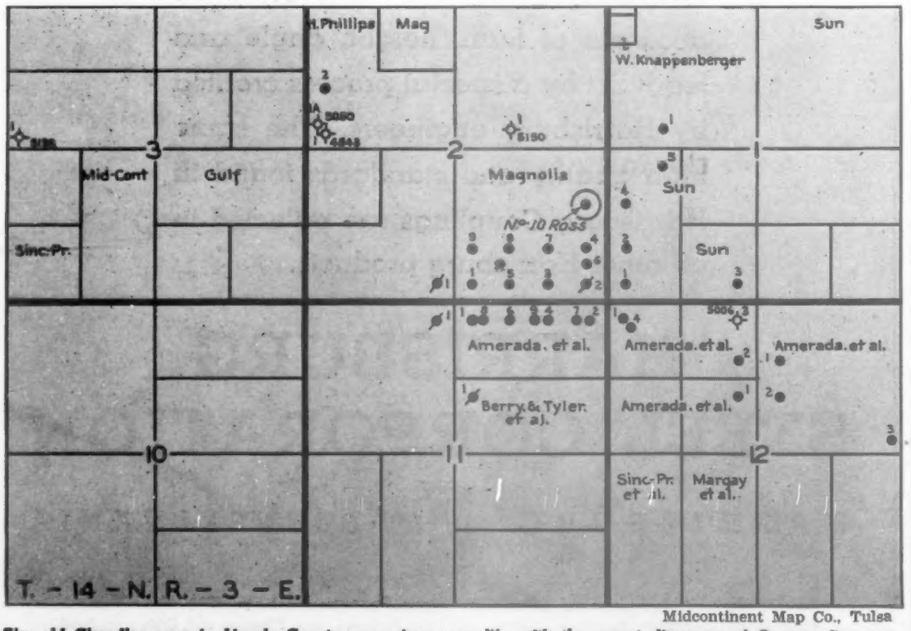
Velma pool: Burkhart & Campbell, 3-C Spears, NE SW NW 15-1s-5w. T.D. 485 ft. Pumped 5 bbl.

Texas County

Hugoton field: Republic Natural, 1 Cope, E½ E½ NE NW 18-6n-16ecm. T.D. 2,830 ft. Gager 25,540,000 cu. ft. gas.

Tillman County

Frederick district: Johnson, 1 Longacre, NE NE SE



Midcontinent Map Co., Tulsa

The old Chandler area in Lincoln County was given new life with the recent discovery of Oswego lime production at Magnolia, 10 Ross, SE NE SE 2-14-3, an old well plugged back from Skinner sand. Other wells in the field, producing from Skinner sand, are expected to be plugged back to the shallower pay

32-2s-17w. Canyon, 2,922 ft., T.D. 3,264 ft. in conglomerate, P.B. 3,258 ft., drilled out to 3,262 ft. Pumped 90 bbl. oil and 70 bbl. water.

Tulsa County

Broken Arrow district: J. H. Striker, 3-A Allen, NE NW NW 4-17-14. T.D. 1,554 ft. Dry.
Bird Creek field: Sinclair Prairie, 14 Todd, C SE SW 32-21-13. T.D. 1,522 ft. Pumped 1 bbl.

Wagoner County

Bilby area: D. Curtis and others, 1-A Robson, NE NE NW 21-19-15. T.D. 1,024 ft. Dry.
James Petroleum, 1 Robson, NE NW SE NW 21-19-15. T.D. 1,017 ft. Pumped 50 bbl.
McCracken pool: French Brothers, 3 Hall, SE SW NE 20-18-17. T.D. 927 ft. Gaged 100,000 cu. ft. gas.
Oneta area: Russo Drilling, 1-A Leppeman, SW NE SW 19-18-16. T.D. 1,620 ft. Dry.
Miscellaneous: A. T. Campbell, 1 Jacoby, NW NE SW 6-18-18. T.D. 300 ft. Dry.

Estimated Daily Production

Estimated daily production in Oklahoma for the week ended August 10, and for the preceding week, was as follows:

	Barrels	
	Aug. 10	Aug. 3
Allen	5,225	5,225
Billings	5,950	5,950
Burbank	7,000	7,025
South Burbank	7,900	8,025
Balance Osage	16,900	17,000
Blackwell district	3,350	3,400
Bristow-Slick	5,750	5,800
Chandler	1,000	1,025
Crescent	2,050	2,100
Cromwell	2,850	2,825
Cushing-Shamrock	9,100	9,100
Duncan	3,625	3,625
Edmond	4,025	4,025
Fish	3,175	3,150
Fitts	15,250	16,250
Jesse	2,100	2,100
Graham-Fox	2,425	2,400
Gray	775	775
Healdton	8,700	8,650
Hewitt	3,800	3,800
Keokuk	3,100	3,125
Konawa	1,050	1,050
Lucien	7,850	7,850
Moore	1,850	1,775
Northeastern counties	17,250	17,100
Oklahoma City	87,600	109,200
Olympic	1,925	1,950
Ramsey	3,750	3,725
Sasakwa	1,450	1,425
Sholem-Alechem	2,650	2,700
Seminole district:		
Bowlegs	6,625	6,600
Carr City	2,325	2,325
Dora	2,225	2,200
Earlsboro	4,125	4,150
East Earlsboro	1,750	1,750
South Earlsboro	525	525
Little River	6,550	6,550
East Little River	625	650
Maud	525	525
Mission	1,225	1,225
Seminole	6,850	7,025
East Seminole	1,150	1,150
Searight	2,050	2,025
Total Seminole	36,550	36,700
St. Louis-Pearson	25,500	25,150
Tatums-Tussy	2,450	1,975
Tonkawa-Garber-Thomas	3,625	3,675
Wewoka	1,500	1,450
Yale-Jennings	3,050	3,125
Other pools	79,325	79,625
Total Oklahoma	391,425	413,850

FIRST REPORTS

Carter County

Batson, 3 Williams ..... NE NW SE 20-4s-2w
Batson, 4 Williams ..... SE SW NE 20-4s-2w
Cox, 1 Herrell ..... NE SE SW 20-4s-2w
Gibson, 2 Walker ..... SE NW NE 20-4s-2w
Kerbow, 1 Gibbons ..... NE SW SW 20-4s-2w

Coal County

Campbell, 1 Cunningham ..... C NW NW 25-3n-11

Creek County

Brauer, 1 Taylor ..... C NW SE 31-16-7

Garvin County

Kerlyn, 1 Butterly ..... NE NW SW 23-1n-1e

Hughes County

Ramsey, 1 Vierson, wildcat ..... SW SE SE 5-5-10
Delaney, 1 Warren ..... SE SE NW 29-7-8
Clark & Cowden, 1 Barnhart ..... NW NW SW 32-7-8

Kay County

Zephyr, 1 Morrell ..... SW SW SE 8-28-4

Lincoln County

Mid-States, 2 Provaznik ..... SE SW SW 33-12-6
Portable, 1 Kent ..... NE NE SE 23-17-2

Marshall County

Pure, 3 Little-100 ..... NE NE SE 28-5s-7
Pure, 2 Little-101 ..... Section 28-5s-7

Okfuskee County

Wells, 6 Scott ..... SW NW NE 25-10-11
Reese, 2 Berryman ..... NE SW SW 36-11-8
Grimes, 1 Alexander ..... SE NE NW 35-11-9
Graham, 1 McLlain, wildcat ..... SE SW SW 7-12-7

Oklahoma County

Tower, 5-A Military ..... SE NE SW 34-12-3w

Payne County

Atlantic, 1 Murphy ..... NE NE SW 20-19-2

Pontotoc County

Cornell, 1 Gray ..... NE NE SW 25-5-4
Hall, 4 Summers ..... NW SW SE 26-5-4
Russell, 1 Parks, wildcat ..... NW SW NE 35-5-8

Pottawatomie County

Denver, 5 Houck ..... NE NW NW 1-6-4
Marko, 1 Baker ..... C NW SE 15-7-3
Kerlyn, 2 Ogee ..... NE SE SE 8-7-5
Dunnett, 5 Rodgers ..... SW SE SW 31-11-4

Seminole County

Sinclair Prairie, 9 Sunny ..... SE NE NW 14-7-6
Winona, 2 Jackson ..... NE SE NE 18-7-8

Stephens County

Sun, 1 Carhuff, wildcat ..... NE SW NW 9-1s-4w
Central, 3 Hefner ..... NW NE SW 12-1n-5w
Sunray, 3 Hefner ..... SE SE SW 12-1n-5w

Tillman County

I.T.I.O., 2 Peters ..... SW SW NW 6-3s-18w

WILDCAT DRILLING REPORT

Creek County

Stonehill Drlg., 1 Vann ..... NW SE NW 7-17-9
Prue 2,245-83 ft., Skinner 2,435-50 ft., Bartlesville 2,555-2,675 ft., drlg. 2,700 ft.

Kiowa County

Hurst & Groth, 1 Groth ..... SW cor. 3-4-16w
Drlg. 520 ft. in granite wash.
Lewis, 1 Wooten ..... SE cor. 28-7-17w
Conglomerate 665-833 ft., S.O. 775 ft., Arbuckle 893 ft., drlg. 918 ft.

Johnston County

Wolfe, 1 Laughlin ..... SE NE SW 16-4s-8
Drlg. 2,380 ft., S.O.

Lincoln County

Wilcox, 1 Murphy ..... NE SE SW 7-14-6
Prue 3,190 ft., T.D. 3,217 ft., S.S.O.&W.

Okfuskee County

Burke Greis, 1 Dew ..... NE cor. 9-12-9
Drlg. 4,024 ft. in Viola, N.S.

Payne County

H. & H. Oil, 1 Linsenmeyer ..... SE SE SW 3-18-4
Base Oswego 3,320 ft., S.D. 3,410 ft.

Pottawatomie County

Townsend et al, 1 Lynn ..... NW NE NW 28-6-4
Belle City 1,858 ft., drlg. 2,947 ft.

Tillman County

Cline et al, 1 Staley ..... SE SE NW 10-2s-19w
Drlg. 5,882 ft. in lime and shale.
Kadane Bros., 1 Andrews ..... NW cor. 35-2s-19w
Stain 5,405-5,591 ft., drlg. 5,592 ft.
Staley & Hawkins, 1 Taylor ..... SW cor. 9-2s-15w
Granite wash 1,113-19 ft., sand wash 1,136-56 ft., drlg. 1,283 ft. in lime.

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LOUISIANA GULF COAST

Storm Slows Activity as Many Wells Are Badly Damaged

By NEIL WILLIAMS

NEW ORLEANS, La., Aug. 12. — A tropical storm that moved along the entire Louisiana Gulf Coast and which was followed by heavy rains disrupted operations and caused an unestimated amount of damage in various fields. Main highways leading into the district were closed at the end of the week due to flooded conditions, and several days will be required before normal operations can be resumed.

A scheduled production test of a wildcat located on the China prospect, Jefferson Davis Parish, was holding the attention of operators. Union Sulphur, 1-A Calcasieu National Bank, is bottomed at 9,529 ft., and 5-in. casing was cemented at 9,487 ft. The well tried to blow out at 9,520 ft., at which depth an electrical survey showed sand at 8,555-62 ft., and from 9,278-9,305 ft. Sidewall cores cut at 8,558 ft. and 9,301 ft. recovered sand showing oil.

W. T. Burton and others, 1 Mayo Realty Co., a wildcat located on the South Lake Charles prospect, Calcasieu Parish, is attracting attention as it drills in shale below 10,713 ft. An electrical survey showed gas sand at 10,520-60 ft., with 8 ohms resistivity and 80 mv. porosity. Sidewall cores cut at 10,560-74 ft. recovered sand with a gas odor.

Phillips Petroleum, 1 Miami Corp., the discovery well of the Chenier Ridge field, Cameron Parish, continues to be tested, and is showing an increase in salt water. During a recent 24-hour gage, the well flowed 50 bbl. of distillate and 50 bbl. of salt water through a ¼-in. choke. Tubing pressure was 3,550 lb., and shut-in casing pressure 1,725 lb. The well is testing through perforated casing at 10,196-10,200 ft. Should the salt-water flow continue to increase, the well is expected to be killed and recompleted.

Lake Salvador

Production from a new sand was opened in the Lake Salvador field, Plaquemines Parish, as California Co., 1 Delta Minerals, Unit 5, flowed at the rate of 18 to 20 bbl. of 39-gravity oil per hour through a 4/64-in. choke. Working pressure was 1,050 lb. This well, located about ½ mile northeast of the discovery well, was drilled to a total depth of 10,198 ft., and production was obtained by perforating casing at 7,485-90 ft. This sand is several hundred feet higher than that of the discovery well, No. 1 Delta Minerals, Unit 7, which flowed pipe-line oil for several days at a depth of 9,900 ft., but due to salt-water intrusion, was deepened to a total depth of 10,807 ft., at which depth the well is expected to be abandoned.

On the west flank of the Bayou Blue dome, Iberville Parish, Superior Oil, 1 Schwing Lumber & Shingle Co., is bottomed at 5,100 ft., and 5½-in. casing was cemented at 5,032 ft. for a production test after an electrical survey showed four sand sections. These sands were logged at 3,955-65 ft., 4,628-50 ft., 4,678-93 ft., and 4,953-5,006 ft. The showings were confirmed by sidewall cores which recovered sand showing oil.

Paradis Field Extended

Texas, 1 Sunset Realty Co., which marked up an important extension to the Paradis field, St. Charles Parish, flowed 81 bbl. distillate per day, flowing through a 4/64-in. choke. Tubing pressure was 3,535 ft. The well was drilled to a total depth of 11,246 ft., and the completion was made through perforated casing at 9,922-65 ft. Location is in 28-14s-20e, several hundred feet east of established production.

H. M. Naylor, 1 Acadia Development Co., which established distillate production on the Mermentau prospect, Jefferson Davis Parish, is reported to be flowing at the rate of 50 bbl. of distillate and approximately 2,000,000 cu. ft. of gas per day through a 12/64-in. choke. The well is testing through perforated casing at 9,115-25 ft.

A block of approximately 40,000 acres centering around the town of Sugartown, Beauregard Parish, was acquired by Atlantic Refining Co., and the block will be worked extensively with geophysical instruments.

On the southwest flank of the Anse La Butte field, St. Martin Parish, Glassell & Glassell, 4 Breaux, cemented 7-in. protection casing at 9,368 ft., and the well is drilling ahead. This is the deep test drilled on the flank of the structure.

LOUISIANA GULF COAST COMPLETIONS

Acadia Parish

Jennings field: Stanolind, 118 Crowley Oil & Mineral Co., perf. casing 7,510-30 ft., 445 bbl., ¾-in. choke.

Avoyelles Parish

Eola field: Amerada, 10 Marchieve, sand 6,424-50 ft., 162 bbl., 4/64-in. choke.

Evangeline Parish

Ville Platte field: Continental, 6 W. L. Tate, perf. casing 10,042-70 ft., 295 bbl., 4/64-in. choke.

Iberville Parish

Bayou Blue field: T. G. Markley and Crosby, 2 Baiste, perf. casing 1,202-08 ft., 50 bbl., pumping.
T. G. Markley and Crosby, 3 Baiste, sand 1,585-1,607 ft., 170 bbl., ¼-in. choke.

La Fourche Parish

Golden Meadow field, F. P. Daybault, 1 Giles, perf. casing 5,600-10 ft., 160 bbl., 9/64-in. choke.
M. H. Marr and G. H. Vaughn, 3 B. & D. unit, perf. casing 10,355-80 ft., 300 bbl., 10/64-in. choke.

(Continued on Page 94)

Refiner Finds New Way to Purify BUTANE

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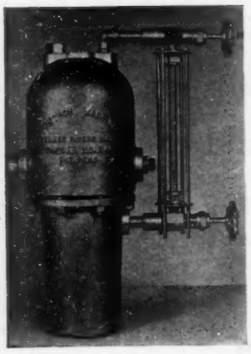

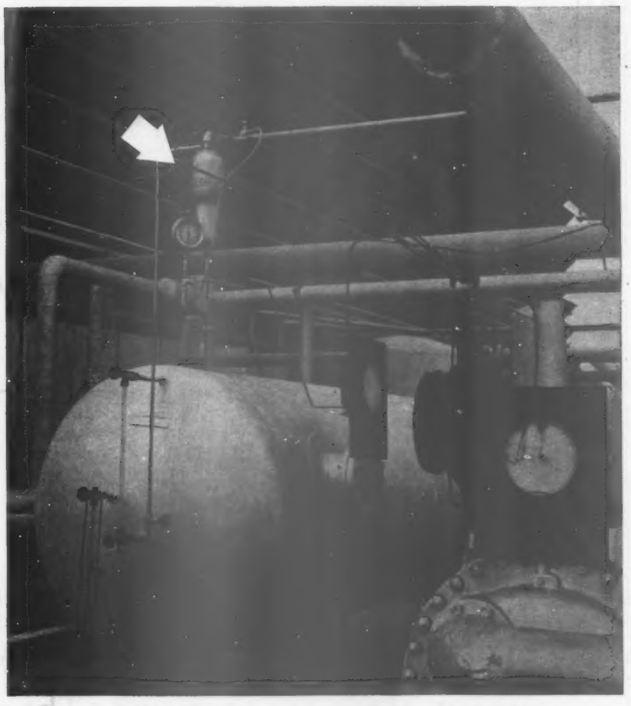

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By

F. L. SINGLETON

Three Nueces County Tests Show Favorable Results

CORPUS CHRISTI, Tex., Aug. 12.—Another new field was added to Nueces County as Fred W. Shield, 1 Moore, 3 miles southwest of the Baldwin field, flowed 152 bbl. of 43.4-gravity oil on a 24-hour potential test through a ¼-in. choke. Tubing pressure was 935 lb., and casing pressure 1,050 lb. Drilled to a total depth of 6,762 ft., 5½-in. casing was cemented on bottom, following an electrical survey which showed a sand section at 6,603-60 ft. The well was completed through perforated casing at 6,622-26 ft.

The well is located in the I.&A. Survey No. 143 in an area which is divided among several major and independent companies, and additional development is expected to be announced for the field in the near future.

One mile east of the Robstown townsite, Nueces County, Texas Conservative Oil Co. cemented 586 ft. of 7-in. liner at 6,188 ft. in No. 1 Isensee, preparatory to testing sand at 5,900 ft., where sidewall cores recovered soft sand with a faint odor of oil. The well was originally drilled to a total depth of 7,505 ft., and the hole was plugged back to 6,025 ft.

In the same county, and located approximately 7,800 ft. west of the discovery well of the East Flour Bluff field, Humble Oil & Refining Co. cemented casing to test No. 1 Duncan. Drilled to a total depth of 7,075 ft., 5½-in. casing was cemented at 6,871 ft. to test sand at 6,788-6,803 ft. where a 20-minuute drill-stem test recovered 1,700 ft. of pipe-line oil and 95 lb. working pressure. The sand correlates with that of the discovery well, located as a maritime operation in Laguna Madre Bay.

Rincon Field

Interest in the Laredo district centered on Complete Oil Well Service, 1 Yzaguirre, 1 mile northeast of the Rincon field, Starr County, which looms as a pool opener or a major extension to the Rincon field. The well was drilled to a total depth of 5,256 ft. and 5½-in. casing was cemented at 4,970 ft. Casing was perforated at 4,896-4,904 ft. and the well is flowing an estimated 5 to 6 bbl. of 56.5-gravity distillate per day through a ⅛-in. choke. Tubing pressure was 1,725 lb. and casing presure 1,915 lb. The perforations are expected to be cemented off and another test made at 4,600 ft. where drill-stem testing recovered pipe-line oil.

In the Boyle field, Rutherford Oil Corp., 2 Carruth, recovered 350 ft. of pipe-line oil and tested 150 lb. working pressure on a 10-minute drill-stem test at 3,494-98 ft. Total depth is 3,508 ft. and casing was cemented for completion. Borsodi Petroleum, 1 Vela, an outpost well, is shut down for orders at a total depth of 4,125 ft. following a 4-minute drill-stem test at 3,521-38 ft. which tested 180 lb. working pressure.

Atlantic Refining, 1 W. E. Conwell, about 1 mile northeast of the discovery well of the Thomaston Wilcox field, De Witt County, is drilling below 5,926 ft. following a 10-minute drill-stem test at 4,852-4,912 ft. which recovered 370 ft. of oil and gas-cut drilling mud. This sand was cored in the discovery well which was completed in the Wilcox formation at 7,855-65 ft. as a distillate producer.

Along this same trend, but located up dip from recent Wilcox development, H. R. Cullen, 1 Washburn Ranch, southwest of Fowlerton, in La Salle County, was holding considerable attention as 5½-in. casing was cemented at approximately 5,600 ft., preparatory to testing showings of oil and gas logged in the Wilcox at 4,750-64 ft. and at 5,416-28 ft. Drill-stem testing in these sections showed favorable indications. The well was drill to a total depth of 8,300 ft.

Along the Balcones fault line and located in Atascosa County, W. J. Walton Drilling, 1 Tuerpe, Robert C. Rogers Survey, looms as the discovery well in a new chalk field. The Austin chalk was topped at 2,400 ft. and chalk with a good show of oil was recovered at intervals from 2,400-43 ft. The well is coring ahead in chalk and may be carried to the Edwards lime before a production test is attempted.

Jim Wells County Discovery

A major extension to the Wade City-Orange Grove field, or a new discovery for Jim Wells County, was indicated as H. R. Smith prepared to test No. 1 Thiel. The well was drilled to a total depth of 5,339 ft., and 5½-in. casing is being cemented to test a sand at 4,900 ft. where a 15-minute drill-stem test at 4,923-38 ft. tested 35 lb. working pressure and recovered 150 ft. of oily mud and oil of which 75 per cent was oil. The hole was plugged back after salt-water sand was cored at 5,310-21 ft. The well is located in Block 25, Gulf Coast Farming & Trucking Co. subdivision in the George Reynolds Survey, about ½ mile southwest of the Orange Grove townsite. The sand section corresponds with that of the Wade City field, 3 miles to the northeast, and the completion of the well for a commercial producer would open considerable acreage for development.

North of Orange Grove, F. J. Hines and others staked location for a 5,400-ft. test located on the T. M. Lawrence lease in the W. F. Rice Survey.

Colton & Colton, 1 Terrell, the discovery well of the Terrell field, Victoria County, has been recompleted at a plugged-back depth of 5,283 ft. for an initial production of 21 bbl. of 26.6-gravity oil per day on gas lift. The well was originally completed at this depth but was deepened to a total depth of 5,610 ft. after production showed a decline. In the East McFaddin area, Humble Oil & Refining, 1 Nave, is coring sand below 5,697 ft. following an unsatisfactory drill-stem test at 5,615-21 ft. which recovered a small amount of oil and approximately 200 ft. of gas-cut drilling mud.

In Duval County, Continental Oil, 1-B Driscoll, 1½ miles east of the Driscoll field, swabbed salt water with a good show of oil and gas through perforated casing at 3,880-90 ft. The perforations were squeezed off preparatory to retesting. The well topped the Pettus at 3,870 ft. and the Yegua at 4,104 ft. Location for another Pettus sand test was staked 5½ miles southwest of the town of Realitos by Humble Oil & Refining Co. The well is situated on the Muil lease in the Diego Ynojosa grant.

SAN ANTONIO DISTRICT WILDCATS

Atascosa County

Walton Drilling, 1 Tuerpe, Rogers Survey, top Austin chalk 2,400 ft., coring chalk 2,443 ft.

La Salle County

H. R. Cullen, 1 Washburn, H.&G.N. Survey 67, T.D. 8,300 ft., run 5½-in. csg. to test sand at 4,740-64 ft. and 5,416-28 ft.

H. R. Cullen, 1 Wildenthal, McMullen and McGloin Survey, S.D. 4,750 ft.

Lee County

Fred Pederson, 1 Brown, drlg. sand 8,798 ft.

LAREDO DISTRICT COMPLETIONS

Brooks County

Kelsey field: Humble, 67 McGill, sand 4,715-23 ft., 137 bbl., 9/64-in. choke.

Duval County

Hoffman field: Magnolia, 18 Weil, sand 2,655-59 ft., 124 bbl., ⅝-in. choke.
Magnolia, 19 Weil, 2,787 ft., dry.
Piedra De Lumbre field: Government Wells, 4 Lundell, sand 1,362-68 ft., 78 bbl., ¾-in. choke.
Tarancahuas field: Cox, Hamon et al, 1 Barrow Hoffman, 2,058 ft., dry.
Wildcat: G. W. Bascom, 2 Adami, 1,326 ft., dry.

Jim Hogg County

Manila field: Achning & Daubert, 2 Wood, 2,621½ ft., dry.

Webb County

West Cole field: Magnolia, 11 Benavides, 2,368 ft., dry.
Magnolia, 12 Benavides, 2,364 ft., dry.

LAREDO DISTRICT WILDCATS

Brooks County

Sun, 1 Baldridge, Survey 16, coring salt-water sand 4,904 ft., 20-minute drill-stem test 4,895-4,904 ft. rec. 92 ft. drlg. mud, water and oil, 15 per cent oil, and 184 ft. salt water.
West Prod., 1 Cage, G.C.&S.F. Survey 37, cg. sandy shale 8,220 ft.

Duval County

Henderson Coquat, 1 Hamilton, Poitevent Survey 125, cg. 2,810 ft.
Humble, 1 Muil, Diego Ynojosa grant, 5½ miles southwest of Realitos, loc.
Milam Drlg., 1 Valerio, cg. 4,683 ft.
Prescott Williams, 1 Taylor, El Mesquite grant, S.D. 3,125 ft.

Jim Hogg County

Humble, 1-C Mestena, Diego Hinojosa grant, T.D. 5,437 ft., making drill-stem test.

Starr County

Borsodi, 1 Vela, outpost well Boyle field, S.D. 4,125 ft., 4-minute drill-stem test 3,521-38 ft. tested 180 lb. working pressure.
Rutherford, 2 Carruth, Boyle field, T.D. 3,508 ft., running casing.

Webb County

O. W. Killam, 1 Bruni, drlg. shale 2,391 ft.

CORPUS CHRISTI DISTRICT COMPLETIONS

Calhoun County

Duck Bay field: Coronado Corp., 2 K. L. Welder, 6,104 ft., dry.

Bee County

Wildcat: M. D. Kirks, 1 Wolft, 3,527 ft., dry.

Goliad County

Wildcat: J. K. Culton, 1 S. E. Cole, 5,620 ft., dry.

Jim Wells County

Orange Grove field: W. C. McBride, 1 Schreade, sand 5,125-54 ft., 325 bbl., ¼-in. choke.
Wade City field: Anderson-Prichard, 4 Mueller, perf. casing 4,800-03 ft., 412 bbl., ¼-in. choke.
Arkansas Fuel Oil, 1 Sachtleben, perf. casing 4,905-14 ft., 120 bbl., 10/64-in. choke.

Nueces County

Minnie Bock field: Windsor, 6 Howze, sand 3,809-58 ft., 48 bbl., 3/32-in. choke.

Refugio County

Fagan field: C. L. Norsworthy, 2 Fagan, 5,953 ft., dry.
La Rosa field: Coronado, 5 Yarrow, perf. casing 5,414-17 ft., 122 bbl., ⅛-in. choke.
Shields, 6 Sasse, sand 5,403-16 ft., 152 bbl., ⅛-in. choke.
Tomoconnor field: Quintana Pet., 37 Heard, perf. casing 5,878-86 ft., 737 bbl., ⅛-in. choke.

Victoria County

Coleto Creek field: Nutex, 5 Zimmer, sand 2,803-10 ft., 165 bbl., ¼-in. choke.
Heyser field: Gulf, 20-B Traylor, sand 5,489-95 ft., 73 bbl., 3/32-in. choke.
Keeran field: Barnsdall, 8 Keeran, perf. casing 7,020-22 ft., gas well.

CORPUS CHRISTI DISTRICT WILDCATS

De Witt County

Atlantic, 1 W. E. Conwell, Lockhart Survey, Thomaston field, rec. pipe-line oil on drill-stem test 4,852-4,912 ft., drlg. ahead 5,910 ft.

Live Oak County

Edwin M. Jones, 1-B George West, L. A. Fant Survey, T.D. 3,615 ft., cored sand oil show 3,580-86 ft.

Jim Wells County

H. R. Smith, 1 Theil, T.D. 5,339 ft., run 5½-in. csg. to test sand at 4,900 ft.
F. J. Hines et al, 1 Lawrence, W. F. Rice Survey, 4 miles of Orange Grove, 5,400-ft. test, loc.

San Patricio County

Norsworthy, 1 McKamey, Tract 17, Block E, Gregory farm tract, T.D. 6,500 ft., set whipstock to sidetrack.

Victoria County

Humble, 1 E. D. Nave, M. J. Traviesa Survey, cg. sand 5,700 ft., drill-stem test 5,615-21 ft. rec. small amount of oil.
Titanic, 1 T. C. Edwards, D. Nira Survey, drlg. shale 2,567 ft.

Hull-Silk Change Asked

AUSTIN, Tex.—In the Hull-Silk field, Archer County, Chapman & McFarland petitioned for a rules amendment to provide 40-acre spacing, with 20-acre tolerance, for the 4,650-ft. sand, in which one well has been completed. The older and shallower pay has been developed on a basis of 20-acre spacing with 10-acre tolerance.

Large Producer Completed in Tensleep at Mahoney Dome

By
T. R. INGRAM

DENVER, Colo., Aug. 12.—The third well deepened to the Dakota sand in the Fort Collins field, northern Colorado, Continental, 2 Larson, made 50 bbl. of oil and 142 bbl. of water the first 24 hours, indicating the pool will be small in area.

Sinclair-Wyoming, 14 Unit, on Mahoney dome, Carbon County, Wyoming, an outpost well, showed for 180 bbl. an hour in preliminary testing of the Tensleep and may drill deeper. General Petroleum, 51-21-G, third Shannon sand well at Cole Creek, made 270 bbl. initially. Lance Creek had four completions. Ohio, 16 Lamb flowed 142 bbl. an hour from the Leo and Ohio, 15 Lamb had 140 bbl. per hour initial output. Continental, 7-A Dielman and 19 Tom Bell were average wells.

Montana had two completions in Kevin-Sunburst. The William Hanlon test in Wilkshaw Flats district was dry.

Petroleum Products, 8 Hospah, McKinley County, New Mexico, made 137 bbl., initially. Continental, 100 Rattlesnake, deep test on Rattlesnake dome, was dry.

New operations include one on Cole Creek for General Petroleum, two in Lance Creek for Ohio Oil, three in Cut Bank, and two in Kevin-Sunburst.

COLORADO

El Paso County

F. F. Hintze, 1 State.....CEL SE SE 16-11s-60w
S.D. 1,620 ft.

Garfield County

Juhan, 1 Government.....NW SE 22-6s-94w
Rig; waiting on equipment.

Larimer County

Continental, 2 Larson, NE SW 19-8n-68w, Fort Collins field, was completed at 5,685 ft., total depth, and pumped 50 bbl. of oil and 142 bbl. of water in 24 hours from the Dakota at 4,682-85 ft. Location is ⅛ mile north of No. 1 Meyer, the discovery in the Dakota late in 1939 which made 300 bbl. of oil and 50 bbl. of water. Three old wells have now been deepened from the Muddy to the Dakota. The other was No. 1 Whitaker, southwest offset to No. 1 Meyer, which made 19 bbl., initially. It now appears certain that the productive area in the Dakota will be small.

Lincoln County

Consolidated Smelting & Metals, 1 Hancock, NE NE SW 7-17s-52w, is shut down at 3,300 ft. (corrected depth) in red sandstone in red beds, with the 6⅝-in. set but not cemented at 3,030 ft.

Moffat County

Steamboat Springs Syndicate, 1 Sutton, NE NE SW 1-5n-96w, Dry Lake district, will abandon operations at present depth, 2,252 ft., in Morrison sand, where it had a hole full of water.

Texas, 2 Wick.....Lot 9, 10-4n-91w
T.D. 3,935 ft., waiting on reamer.
Mountain Fuel Supply, 2-A Kuykendall.....
SW NW NW 23-12n-100w
T.D. 2,600 ft., cmtd. 6¼-in. at 2,596 ft., perf. and testing in three sands by stages.
Mountain Fuel Supply, 6 Wilson, C Lot 2, 14-12n-100w
Rig. W.O. tools from No. 2 Kuykendall.

Rio Blanco County

Buford Oil 1 Government.....SW SW 16-1n-91w
T.D. 4,160 ft., S.R. at 3,885 ft.
Texas-California, 4 Unit.....NW NW NW 2-2n-94w
Drilling 1,062 ft.

Routt County

Craig-Moore, 1-X Irwin.....SW NE 33-7n-85w
Drilling in red beds 2,410 ft.

WYOMING

A rumor, widely circulated but unconfirmed, is that Canadian purchasers of crude have sounded out at Washington the possibilities of purchasing government royalty oil in the Salt Creek and Lance Creek fields and one or two other fields in Wyoming. Salt Creek royalty oil is under contract to the Sinclair-Wyoming Oil Co., this contract for 1 year expires December 31, 1940. The government oil in Lance Creek is being handled under a temporary arrangement pending outcome of differences over the price. It is understood that the Department of the Interior contracts provide for the taking of royalty oil in kind if the Government so elects.

This rumor followed reports out of Montana 2 weeks ago that Canadian purchasers were in the market for large quantities from the northern fields to take care of harvesting and military needs in Alberta and Saskatchewan, but that actual shipments had been held up following protests from purchasers in the Turner Valley district.

A meeting of executives of operating companies in the Lance Creek unit and purchasers of Lance Creek crude was held in Denver last Friday to consider the crude-price situation in that field following the demand of the Government for $1.14 per barrel for its royalty oil, which is more than the posted price. A proposed compromise was discussed, but no decision was reported and the meeting adjourned for further investigation and consideration of the situation.

Albany County

Ohio, 1 Coughlin.....SW NE NW 26-16n-77w
T.D. 4,345 ft., P.B. to 3,860 ft., testing, making 30 bbl. from Muddy sand.

Big Horn County

Ohio, 3 Davis.....NW SW NW 34-56n-97w
Coring 4,219 ft.
Frank S. Scott, 1 Robertson...SE SE SE 6-54n-93w
T.D. 727 ft., in Embar, U.R. 8¼-in. at 700 ft.

Carbon County

Sinclair-Wyoming, 14 Unit, Mahoney dome, outside well ¼ mile northeast of the discovery in the Tensleep, is showing for a large producer at 6,001 ft., total depth. Top of Tensleep was at 5,740 ft. It made 180 bbl. an hour in preliminary testing and may drill a little deeper before completing.

Albert Development, 1 Boeke, SW NW 18-25n-79w, Albert dome, was dry in granite wash at 1,600 ft.

Sinclair-Wyoming, 14 Unit.....NW SW NE 7-26n-89w
T.D. 6,001 ft. (corrected depth) in sand, top Tensleep at 5,740 ft., testing by stages.

Fremont County

Sinclair-Wyoming, 2-A Muskrat NW SE SW 34-34n-92w
Drilling 4,758 ft.

Natrona County

General Petroleum, 51-21-G, NW NW NE 21-35n-77w, Cole Creek, was completed in the Shannon sand at 4,492 ft., total depth, and made 270 bbl. of pipe-line oil the first 24 hours through perforated 7-in. at 4,487 ft. Location is 1,320 ft. east of the nearest producer. This makes the third producer in the Shannon.

The discovery well, formerly No. 1 Government, now No. 55-21-G, in the Dakota-Lakota horizon, is being plugged back to test in the Shannon sand at 4,505-39 ft. This sand showed good saturation on the way down.

Location has been made for No. 7-22-P, an outside well on the east, approximately 1,320 ft. northeast of No. 71-21-G.

Surveys have been completed for a pipe line from the field to the White Eagle refinery at Casper.

General Petroleum, 7-22-P....NW SW SW 22-35n-77w
Location: (first report).
Royalty Oil, 1 Midert.....SW SW SW 26-35n-80w
Drilling 1,520 ft. in Steele shale.
General Petroleum, 7-21-G....NE NE NE 21-35n-77w
Drilling 1,587 ft.
Stanolind, 8 Unit.....NW NE 26-40n-79w
T.D. 2,940 ft., cemented 5½-in. on bottom.
Lewis Gebhart, 1 Government..NW NE SE 10-39n-78w
S.D. 1,587 ft.
General Petroleum, 55-21-G.....NW SE 21-35n-77w
T.D. 3,015 ft., cemented off Dakota and Lakota, pulled 6⅝-in., set plug and will pull 8⅝-in., then perf. 11¾-in. opposite Shannon sand.

Niobrara County

Lance Creek had four completions, two of which were above the average.

Ohio, 16, Elizabeth Lamb-Account-1, NW NE NE 5-35n-65w, flowed 142 bbl. an hour through 38/64-in. choke on the tubing from three benches of the Lea at 5,480 ft., total depth, after plugging back from 5,628 ft. It was acidized in the three benches with a total of 3,000 gal. The fourth bench at 5,592-5,628 ft., had water. Tops of the other pays were: First bench, 5,145 ft.; second bench, 5,308 ft., and third bench 5,400 ft.

Ohio, 15 Elizabeth Lamb-Account 1, NW SE SE 32-36n-65w, stopped drilling at 5,400 ft. without going into the fourth bench and flowed 142 bbl. an hour after acidizing. The pays were at 5,040-5,116 ft., 5,228-96 ft., and 5,310-5,400 ft.

Continental, 19 Tom Bell, NW NE SE 33-36n-65w, had initial production of 384 bbl. in 24 hours at 5,338 ft., total depth, from sands in the Leo at 5,299-5,322-38 ft.

Continental 7-A Dielman, NW NE NW 8-35n-65w, made 932 bbl. the first 24 hours at 5,386 ft., total depth, from the Leo at 5,366-86 ft.

Ohio, 8 Agnes Rohlff.....NW SW NE 32-36n-65w
Rig, waiting on equipment; (first report).
Ohio, 17 Lamb.....NW NW NE 5-35n-65w
Spudding; (first report).
Continental, 6 Apex-3.....SE NE NE 34-36n-65w
Drilling shale 340 ft., cemented 10¾-in. at 313 ft.
Argo Oil, 14-A Elliott.....5-35n-65w
Drilling 3,243 ft.
Ohio, 17 Putnam.....NW SE SW 33-36n-65w
Rig, waiting on rotary.
Minnelusa-MacKinnie, 6 Thompson.....
NE NW SE 7-35n-65w
S.D. 5,453 ft.
Continental, 8 Joss.....SW NW NE 6-35-65
Drilling shale and bentonite 3,158 ft.
Continental, 12 Rohlff.....SW NW SW 32-36-65
Drilling shale 1,995 ft.
Ohio, 16 Putnam.....SW SW NW 4-35n-65w
T.D. 5,529 ft., P.B. to 5,391 ft., testing.
H. D. Moore, 1 Berggren.....SE NW 23-35n-63w
S.D. at 2,676 ft.
Ohio, 7 Rohlff.....NW NE SE 32-36n-65w
Drilling 5,477 ft., first Leo 5,095-5,175 ft., second Leo 5,240-5,340 ft.

Park County

V. M. Kirk, 3 Government...NW NW SW 24-58n-98w
Drilling 2,813 ft.
Yale Pet., 1-B Frisby.....SW NE NE 31-52n-100w
T.D. 3,590 ft., cemented 8⅝-in. at 3,578 ft., W.O.C.
Kinney-Coastal, 4 Government....SE NW 13-56n-98w
S.D. 180 ft., repairs.
Resolute, 2 State.....SW SW 16-57n-101w
Drilling 9,737 ft., in top Dakota.

Platte County

Dividend O. & R., 1 Johnson..CSL NW SW 17-24n-66w
Drilling 3,615 ft.

Sublette County

Texas, 1-F.....SW SW SW 27-27n-113w
Location.
Texas, 1-H.....CWL NW SW 2-27n-113w
Flowed 17 bbl., T.D. 1,140 ft., testing.
North La Barge Oil, 4 Govt...CSL SE NE 28-27n-113w
T.D. 1,177 ft., testing S.O., 50 per cent water.
Marvel Oil, 4 Government....SE NE SE 28-27n-113w
Rigging up cable tools.
North La Barge Oil, 1 Govt...NE SE NE 28-27n-113w
Drilling 1,080 ft.

Sweetwater County

Union Gas, 1 Hummer.....NW NW NE 6-17n-103w
T.D. 1,920 ft., 8⅝-in. in top Frontier.
Mountain Fuel Supply 1 Murphy SE SE SE 27-17n-104w
S.D. at 4,156 ft.
Sinclair-Wyoming, 94-A.....NW NW NE 10-26n-90w
T.D. 1,850 ft.
Gus Pongratz et al, 1 Clark.....NW NE 22-19n-104w
Drilling 3,402 ft., expect Sundance at 3,560 ft.
Red Desert Corp., 1 Aspden...NW SW NW 34-18n-103w
Coring for Dakota at 3,100 ft., sulfur water in Frontier at 2,565-97 ft.
Vermilion Oil, 2 Government...SW SW SW 7-12n-99w
S.D. 3,002 ft.

Weston County

Osage Trust, 8.....SW SW SE 8-46n-63w
Drilling 350 ft.
Joseph Dornacker, 1 Kinney-Collins NW NE 33-45n-61w
Spudding.
Duluth-Wyoming, 5.....SE SE SW 12-46n-64w
Location.
Lanam Crowley, 1.....SW SW NW 8-46n-63w
Rig on ground.
Riggs Oil, 4 Government.....CNL NE SE 16-46n-64w
Moving in material.
Charles Stough, 12.....CWL SW NW 4-46n-63w
T.D. 150 ft., trying to free casing.
Pierre La Fleishe, 1 Dober.....NE NE NE 21-45n-63w
Drilling below 500 ft.
John Brorphy, 1 Hansen.....NW NE NW 13-44n-63w
Drilling 1,135 ft.
Wheedon Oil, 6 State.....CSL NW NE 16-46n-63w
Drilling at 150 ft.

MONTANA

Big Horn County

Massey Oil Co., a local organization, has acquired a block of 11,000 acres on the Leggins structure, near

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Hardin, and made a location for a 2,000-ft. test to the Lakota in the SW 11-2s-31e.

Carbon County

Continental, 1 Prigge.....SE SE SE 33-9s-25e
Drilling 2,207 ft. in shale and bentonite.
R. C. Tarrant, 2 McKay.....SE NW 4-6s-18e
S.D. at 3,057 ft.

Glacier County

Cut Bank had three new operations. There were no completions.

Montana Headlight, 7 Britton..NW NW SE 11-34n-6w
Rigging up; (first report).
R. C. Tarrant, 3 Wold-fee.....C NE NE 13-34n-6w
Rig on ground; (first report).
Santa Rita, 4 Government.....CSL NE SE 4-32n-5w
Rigging up; (first report).
Hannah-Porter, 5 Allot.-130....CWL NW SE 6-32n-5w
Rigging up cable tools.
Kately, Agt., 1 Thayer .....NE SE NW 15-34n-6w
Cemented 10¾-in. at 580 ft., Colorado 560 ft.
R. C. Tarrant, 2 fee.....NW NW SE 19-34n-5w
Drilling 400 ft.
Texas, 6 Curran.....C SW NE 8-32n-5w
Drilling 330 ft.
Texas, 9 Unit-9.....C NW SW 9-32n-5w
Location.
Texas, 7 State.....C SE NW 16-32n-5w
Location.
Texas, 3 Bonnett.....NE SE 8-32n-5w
Drilling 1,650 ft.

Pondera County

R. C. Tarrant, 1 Lang.....SE SE NW 14-31n-5w
Drilling 850 ft., top Colorado 388 ft.

Stillwater County

Texas, 1 Unit .....SE NW 10-4s-19e
Spudded.

Toole County

William Hanlon, 1 Merton Mortgage, SW SE 6-37n-1w, Wilshaw Flats district, north of Kevin and near the Canadian border, had the Ellis-Madison contact at 2,345 ft. and encountered water. It was abandoned.

Kevin-Sunburst had two completions. Lion Oil Producing, 5 Haugen, NW SE SE 11-35n-3w, pumped 20 bbl. per day from a break in lime at 1,754-56 ft., after acidizing with 500 gal.

Big West Oil, 17 Dahlquist, SE NW NE 28-35n-3w, pumped and flowed 125 bbl. per day from the contact at 1,700-17 ft. after acidizing with 500 gal.

B. A. S. Aronow, 4 Ellingson...SE SW SW 14-35n-3w
Spudding 60 ft.; (first report).
McKnight & Stock, 3 State....NE NW NW 16-35n-2w
Drilling 640 ft.; (first report).
Kippen O. & G., 2 Solberg....CSL NW NE 20-35n-3w
Drilling 640 ft.
L. J. Yealy, 15 Shaw.....SW NE NW 35-36n-2w
S.D. 550 ft.
Texas, 14 Bruin.....NE NE SE 9-35n-2w
Spudding.
Twin Fields Oil, 2 Government..SE SE SW 21-35n-3w
Drilling 1,550 ft.
Pacific National, 9 Government..NE SE SE 8-35n-2w
Drilling 830 ft.
Enfield, 3 Zachor.....C NW NW 20-35n-1w
Cemented 7-in. at 1,533 ft.
A. E. Crumley & Son, 20 Fryberger.....
SW SW NE 24-35n-3w
S.D. 810 ft.
Coolidge & Coolidge, 8-A State..NW SE NW 36-36n-2w
Drilling 1,010 ft.
Morton O. & R., 9 Morton.....NW NW SE 13-34n-2w
S.D. 1,140 ft.
Twin Falls Oil, 1-A Govt. .....NW NW NW 28-35n-3w
S.D. 1,732 ft.
Prevol & Shay, 1 Govt.....NE NW SW 11-35n-3w
75 ft. oil in hole, 500 gal. acid, T.D. 1,730 ft.

NORTHWEST NEW MEXICO

McKinley County

Petroleum Products, 8 Hospah, NE NE SW 1-17n-9w, Hospah field, formerly carried as No. 1 State and corrected location, was completed in the Hospah sand at 1,578 ft., total depth, for 137 bbl. the first 24 hours.

Teague, Greer, 1 Santa Fe.....33-18n-10w
S.D. 920 ft.
Petroleum Producers, 9 Hospah..NW NW SE 1-17n-9w
T.D. 1,570 ft., testing.
Petroleum Producers, 10 Hospah CEL SE SW 36-18n-9w
Drilling 1,630 ft.

San Juan County

Continental, 100 Rattlesnake, SE NW NE 2-29n-19w, deep test in the Rattlesnake field, which has been standing for some time, was plugged and abandoned. It was drilled to 7,407 ft. in quartzite and then plugged back and tested, but was unable to shut off water. Last test reported it swabbed 24 bbl. of oil and 224 bbl. of water at 6,734 ft., plugged-back depth.

Continental, 109 Rattlesnake..SE NW NW 12-29n-19w
Location; (first report).
Claude Carroll, 1 Cornell.....SW NE 11-29n-12w
Drilling 1,340 ft.
Kutz, 1 Government.....NW NW 28-28n-10w
S.D. 1,250 ft.

San Miguel County

Southwest Drilling, 1 Conchas.....NW NE 34-17n-21e
Drilling 2,500 ft.

UTAH

Box Elder County

Utah Dutchess, 1.....NW cor. 26-14n-8w
Drilling 400 ft.

(Continued on Page 85)

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AND SUCKER RODS

MICHIGAN OPERATIONS

Sun Discovery Well in Clare County Prepares to Test

By OTTO C. PRESSPRICH

SAGINAW, Mich., Aug. 12.—Michigan's oil interests waited over the weekend with eager impatience for developments on the Sun Oil Co. wildcat strike in Hamilton Township, Clare County, while activities in other sections of the state proceeded on the routine path of recent months.

Eight producer completions were recorded last week, their initial combined daily potential being approximately 940 bbl., most of it from two wells, one in the Walker field of Kent County good for 375 bbl. a day, the other a 210-bbl. well in the Wise field of Isabella County; a third of 160-bbl. initial potential was reported from Tallmadge Township, Ottawa County. Also completed was a natural-gas well with initial flow of 2,160,000 cu. ft. a day in Home Township of Montcalm County, while two gas tests were abandoned as failures, six oil tests were chalked up as dry holes and locations for seven other oil or gas tests were abandoned.

At the week's end, Union Drilling & Producing Co., drilling the Sun test in Hamilton Township, was reported mudding off a gas sand, preliminary to casing with 5-in. pipe. The well, on the J. F. McKenna lease in S½ SW SE 15-19n-3w, is 12 miles north and west of the Beaverton pool and Sun Oil is said to have 24,000 acres under lease surrounding the strike. At a depth of 3,751 ft., in Monroe dolomite, the hole filled about 2,000 ft. with oil. No attempt was made to bail, as no provision had been made for recovery in case the well started to flow. A control head was placed. The test is the latest of several made in the township, in at least one of which some Michigan stray-sand gas was recovered. Attention on the Sun test was heightened by its development within a month after the Rayburn-Major strike in the Adams district of Arenac County. That well, No. 1 Yenior, continued to flow heavily pinched in. Rotary drills are expected to be used in some of the tests the Yenior discovery has touched off, because of the trouble Rayburn and Major had in drilling through the Traverse water.

Another minor focal point in the Michigan basin area was Sun, 2 Cameron, south offset to another discovery in Section 10 of Grout Township, Gladwin County, importance of which is problematical. The second Cameron test was well below 3,100 ft.

Drilling in southwestern Michigan resulted in five completions in Van Buren County, three being small producers. In addition to the Walker well, there was a small producer in Allegan County and a dry hole there among the completions.

Permits for 17 new locations were issued during the week by the state Conservation Department as Fred P. Struhsaker, chief of the department's lands division, prepared a recommendation to delay action on a request for reduction of rentals on wildcat oil and gas lands owned by the state. Operators suggested that a cut in rental of mineral rights from $1 an acre to 50 cents might speed exploration. Struhsaker felt the state was without adequate information to justify a reduction.

The week's list of permits showed locations in 16 townships in 12 counties, Arenac County in the lead again with five, Allegan getting two, the others scattered one to a county.

Last week's completions summary follows:

Allegan County

Heath Township: H. E. Fowler, 1 Kempher, NE NE SW 9-3n-14w, loc. abandoned.
Hopkins Township: R. D. Malcolm, 1 T. Button, SW SW SW 14-3n-12w, dry, T.D. 1,670 ft.
Overisel Township: Crown Development, 3, J. and F. Nyhius, SW SE SW 16-4n-14w, 40 bbl., acid., T.D. 1,594 ft.

Clare County

Redding Township: Taggart Bros., 34 McKnight, S½ SW SW 24-19n-6w, dry, T.D. 1,660 ft.

Isabella County

Wise Township: Cities Service, 1 G. S. Lasher, NW NW SW 28-16n-3w, 210 bbl., acid., T.D. 3,710 ft.
Wicklund Dev., 1 Neills, NW SW SE 21-16n-3w, dry, T.D. 3,838 ft.
Wicklund Development Co. temporarily abandoned the following locations: No. 2 Fred Busch, NW SW SW 9, No. 2 Ivan Leosh, NW SE SW 8, No. 2 William Leosh, NW SE SE 8.

Kent County

Walker Township: R. E. King, 1 Yost & Huntly, communitized, SE NW SE 32-7n-12w, 375 bbl., acid, T.D. 1,830 ft.

Midland County

Porter Township: Pure, 32 Mina B. Narmore, S½ NE NW 15-13n-1w, 76 bbl., acid, T.D. 3,399 ft.

Monroe County

Dundee Township: Alcoba, 1 Mynee Rowe, NW SE SE 30-6s-6e, dry, T.D. 2,143 ft.

Montcalm County

Home Township: Belvidere, 1 Bates, communitized, NW SE SE 17-12n-6w, dry, T.D. 1,314 ft.
Belvidere, 1 Guy Weeks, communitized, SW SE NW 28-12n-6w, 2,160,000 cu. ft. gas, T.D. 1,309 ft.
Richland Township: Belvidere, 1 Beech, communitized, SW NE SW 7-12n-5w, abandoned location.

Newaygo County

Barton Township: Taggart Bros., 2 H. L. Thompson, NW NW SW 13-16n-11w, dry, T.D. 1,450 ft.

Van Buren County

Bangor Township: Gratiot Oil & Gas Operations, 2 Nutting, NW SE SW 21-2s-16w, 60 bbl. daily natural, T.D. 994 ft.
Shelbow, 3 Carl Starz, SW SW SW 21-2s-16w, 10 bbl., acid, T.D. 1,003½ ft.
Bloomingdale Township: Bloomingdale Dev., 7 Decker, SE SW SE 7-1s-14w, 10 bbl., acid, T.D. 1,202 ft.

(Continued on Page 85)

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Start Test on Third Galveston Bay Prospect; Fourth Planned

By NEIL WILLIAMS

HOUSTON, Tex., Aug. 12.—Wildcatting activity along the Texas Gulf Coast, which has been at a low ebb for the past several months, continued to show signs of increasing activity for the second consecutive week as locations for five interesting tests were announced. Other developments of interest in the district included the opening of dry-gas production on the Lissie prospect, Wharton County, and the opening of a new sand on the north flank of the Esperson dome, Liberty County.

Approximately 1½ miles east of the discovery well of the newly opened Blessing field, Matagorda County, L. E. Lower staked location for a projected 9,000-ft. test on the W. W. Wilkinson and R. J. St. Germain lease in the J. E. Pierce Survey.

In Orange County Dick Schwab and associates are scheduled to move in material for No. 1 Brown & Stark, a projected 6,500-ft. test situated in Section 25, T.&N.O. Survey.

Galveston Bay Structures

Location for another wildcat was announced for Galveston Bay, offshore from Chambers County, by Standard Oil Co. of Texas. The well is No. 1-66 State, about 12 miles southwest of Anahuac, and approximately 1½ miles southwest of the company's No. 61-54 State, a recent dry hole which logged several interesting showings. In the same area Shell Oil Co., Inc., is reported to have applied to the War Department for a permit to drill a test about 2 miles west of Smith Point in Tract 199.

This bay was worked extensively with geophysical instruments by numerous companies during the past 2½ years, and several promising structures are reported to have been located, with the result that practically the entire bay is under lease. Since this large-scale geophysical program was started one field has been opened, and at the present time Humble Oil & Refining Co. is attempting to open another as series of production tests are being made on 1-247 State, located on Red Fish Reef prospect.

Three miles northeast of League City Continental Oil Co. staked location for No. 1 W. S. Davis, a scheduled 10,500-ft. test situated on the South Clear Lake prospect. The well is in the center of combined Lots 2 and 5, Block 2 of the Lakeside addition in the M. Muldoon Survey. This area was worked last year with geophysical instruments, and the location is about 2 miles north of two deep tests recently drilled by the company.

Three miles southwest of Wharton J. B. Ferguson made location for a 5,500-ft. test on the F. F. Damon lease in the R. Kuykendall Survey.

The Lissie prospect, Wharton County, was established as a dry-gas field as Salt Dome Oil Corp., 1 Winnie pool, was being completed following a drill-stem test at 6,711-34 ft., which tested 1,600 ft. of surface pressure and flowed an unestimated amount of dry gas. This well was originally drilled by Stake Petroleum, Inc., as a Wilcox test, and was drilled to a total depth of 10,110 ft. While the well logged encouraging showings in the Wilcox, a series of drill-stem tests failed to develop commercial production and the well was temporarily abandoned several months ago.

West Ranch Deep Sand

Magnolia Petroleum Co.'s attempt to open production from a deeper sand in the West Ranch field, Jackson County, proved disappointing as No. 98-A West Ranch was showing salt water while swabbing at the close of the week. The well was drilled to a total depth of 6,177 ft., and the well was tested through perforated casing at 6,170-74 ft. When the well was first tested, it flowed on gas lift at the rate of 5 bbl. of fluid per hour, of which 10 per cent was oil and 90 per cent wash water. Salt water made its appearance within several hours. The sand section was logged at 6,158-77 ft., and another test of the section may be attempted or the well will be plugged back and completed in the 5,500 or 5,700-ft. horizon.

Seaport Oil, 1 Stephan, located on the extreme west side of the field, recovered 3,630 ft. of oil on a 14-minute drill-stem test at 5,590-97 ft., and 4,590 ft. of oil was recovered on a 12-minute drill-stem test at 5,757-66 ft. The hole is bottomed at 5,769 ft., and 5½-in. casing was cemented at 5,768 ft.

Another producer was scheduled to be added to the Lolita field, Jackson County, as Magnolia, 1 Mitchell, is bottomed at 5,926 ft., with 5½-in. casing cemented on bottom. Gas sand was cored at 5,908-25 ft. and oil sand at 5,925-26 ft. Although development in this field is in the early stages, indications are that the structure will not be as prolific as the West Ranch field.

In the Alta Loma field, Galveston County, Stanolind Oil & Gas Co. is drilling ahead in No. 2 Hulen, 1,350 ft. southwest of the discovery well. Although details of this well have been withheld by the company, it is reported that the discovery pay was logged at 9,100-9,200 ft., and a protection string of 7-in. casing was cemented below this depth. The well is drilling below 9,586 ft., in search of a deeper sand.

Esperson Dome

Commercial production was opened on the north flank of the Esperson dome, Liberty County, as General Crude, 21 Davis, flowed 188 bbl. of pipe-line oil in 18 hours, flowing through a ¼-in. choke. The well was drilled to a total depth of 7,656 ft., and production was obtained by perforating casing at 6,100-20 ft. The well is about 1,500 ft. northeast of the company's No. 20 Davis, a small producer.

The Old Ocean field, Brazoria County, was extended about 1,300 ft. southeast as Fidelity Oil & Royalty Co., 1 Chenault flowed 364 bbl. per day through a ¼-in. choke. Drilled to a total depth of 10,600 ft., production was obtained by perforating casing at 10,045-82 ft.

In the West Columbia field, Brazoria County, Hogg Oil Co. has cemented casing in No. 12 Hogg preparatory to testing two probable new-sand sections cored at 5,800 and 5,900 ft. Total depth of the hole is 6,714 ft.

On the north flank of the Port Neches field Phillips Petroleum Co., 2 Stark is bottomed at 4,610 ft., and 5½-in. casing was cemented at 4,606 ft. preparatory to testing oil sand at 4,556-64 ft., which showed favorable indications on an electrical survey.

On the northwest flank of the Fannett dome, Jefferson County, Gulf, 9 Bordages is waiting on orders at a total depth of 8,090 ft. An electrical survey showed salt formation topped at 8,052 ft., and two-sand section at 7,815-47 ft. and 7,585-96 ft., which showed from 2½ ohms resistivity and from 30 to 50 mv. porosity. The company's No. 6 Bordages is bottomed at 8,220 ft., and 5½-in. casing was cemented at 8,218 ft. Sand showing oil and gas was logged at 8,144-8,200 ft. and at 8,200-20 ft.

TEXAS GULF COAST COMPLETIONS

Brazoria County

Old Ocean field: Fidelity Oil & Royalty, 1 Chenault, perf. casing 10,045-82 ft., 364 bbl., ¼-in. choke.

Chambers County

Anahuac field: Humble, 1 Trinity Rice Disposal, 7,122 ft., 652 bbl., ¼-in. choke.
South Cotton Lake field: Salt Dome, 2 Williams, 6,516 ft., dry.

Fort Bend County

Thompson field: Gulf, 2 Scanlan, sand 7,830-48 ft., 906 bbl., ¼-in. chake.
J. H. Blaffer, 7 Davis, sand 5,381-5,435 ft., 205 bbl., ¼-in. choke.
Gulf, 17 Wolters, sand 5,390-5,410 ft., 145 bbl., ¼-in. choke.
Humble, 17 Davis, perf. casing 5,439-43 ft., 236 bbl., ¼-in. choke.

Hardin County

Baton field: John A. Deering, 7 Cruse, sand 5,252-5,304 ft., 504 bbl., ⅜-in. choke.

Harris County

Clear Lake field: Humble, 43-C Humble-West, 6,050 ft., dry.
Humble, 47-C Humble-West, 5,967 ft., dry.
Fairbanks field: Amerada, 25 Foley, perf. casing 6,832-40 ft., 144 bbl., ⅛-in. choke.

Jackson County

Francitas field: British American, 1 Polifka, perf. casing 7,972-73 ft., 137 bbl., ⅛-in. choke.
Ganado field: Texas, 1-B Mauritz, sand 5,080-5,150 ft., 264 bbl., ⅛-in. choke.
West Ranch field: Magnolia, 84-A West, perf. casing 5,567-77 ft., 563 bbl., ¼-in. choke.
Humble, 1-B Menefee, perf. casing 5,492-94 ft., 530 bbl., ¼-in. choke.

Jefferson County

Lovells Lake field: Humble, 3 Fallor, sand 7,722-25 ft., 148 bbl., ⅛-in. choke.

Liberty County

Esperson field: General Crude, 21 Davis, perf. casing 6,100-20 ft., 480 bbl., ¼-in. choke.
Hardin field: Humble, 17-A Partlow, sand 7,648-56 ft., 288 bbl., ¼-in. choke.
G. McCarthy, 1 Green, 7,759 ft., dry.
Hull field: Guinn, 17 Abel, 2,310 ft., 74 bbl., pumping.

Orange County

Port Neches field: Texas, 7-B Polk, perf. casing 4,059-67 ft., 118 bbl., ¾-in. choke.

Polk County

Segno field: Humble, 25-B Kirby Lumber Co., sand 8,056-8,150 ft., 199 bbl., ¼-in. choke.
Jordan Drilling, 3 Hughes, sand 8,040-85 ft., 408 bbl., ¼-in. choke.

Tyler County

Spurger field: Republic Prod., 39 fee, sand 7,695-7,710 ft., 290 bbl., ¼-in. choke.

Wharton County

Pickett Ridge field: Texas, 40-A Pierce estate, 4,794 ft., 104 bbl., ¼-in. choke.

TEXAS GULF COAST WILDCATS

Austin County

Humble, 17-Y Woodley, deep test, Raccoon Bend field. T. D. 7,052 ft., well tried to blow out, pulling drill stem.

Brazoria County

Humble, 3 Bassett Blakely, Danbury dome. Drlg. shale 7,457 ft.
Rowan, 2 Hubbard, Rowan field. Drlg. shale 3,530 ft.

Chambers County

Humble, 1 Fiewellen, South Cotton Lake field. T.D. 7,640 ft., reaming.
Standard of Texas, 1-66 State, Galveston Bay. First report.

Colorado County

Shell, 2 Plow Realty, Sheridan field. Drlg. shale 4,220 ft.

Galveston County

Continental, 1 Davis, M. Muldoon Survey. First report, location.
Texas, 1 State, Galveston Bay, Section 237. Driving piling.
Texas, 1 Kainer, J. Brown Survey. Drlg. shale 3,030 ft.

Grimes County

Laura C. Oil Co., 1 Hertmaniak. Drlg. sand and shale 2,630 ft.

Harris County

Humble, 1 Furr, S. Singleton Survey. Drlg. sand 5,120 ft.
Christian-Carpenter, 1 Sweeney, Ogburn area. Top Textularia Hockleyensis 5,382 ft., drlg. shale 6,346 ft.

Jackson County

Barnsdall, 1 Pritchett, A. N. Clare Survey. S.D. 4,632 ft.
Stanolind, 1 American Life Realty Co., R. Grimes Survey. Drlg. shale 4,471 ft.
H. E. Williams, 1 Montex, I.&G.N. Survey. S.D. 6,516 ft.

Liberty County

Gulf, 1 Phoenix Development, deep test, Hull field. Drlg. shale 4,054 ft.

Matagorda County

L. E. Lower, 1 Wilkinson, J. E. Pierce Survey, east of Blessing field discovery well. First report.

Orange County

Dick Schwab, 1 Stark & Brown, T.&N.O. Survey 23. First report.

Walker County

E. J. Dupree, 2 Thompson Brothers, T.D. 3,207 ft., perf. casing 2,670-78 ft. and 2,680-94 ft., swabbed fresh water, slight show gas, swabbing.

Wharton County

J. B. Ferguson, 1 F. F. Damon, R. Kuykendall Survey, 3 miles SW of Wharton. First report.

Calhoun Pool Spacing

AUSTIN, Tex.—Twenty-acre spacing with straight acreage proration was sought by Coronado Oil Corp. for the Jay Welder field, Calhoun County, in which it has completed one well. A plat for proposed locations was filed for adoption because of the number of irregular tracts.

APPALACHIAN FIELDS

Chestnut Ridge Wells Produce From Onondaga and Oriskany

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Aug. 10.—On Chestnut Ridge in South Union Township, Fayette County, Pennsylvania, the New Penn Development Co., William E. Snee, and others, in deepening the Summit Hotel (Heyn) No. 2, continued to find additional gas in the lower part of the Oriskany sand. With the sand topped at 6,834 ft., and a gradual increase in volume to 6,870 ft., no additional gas was struck until 6,885 ft., where there was an increase of 500,000 cu. ft. a day, making the total volume 2,200,000 cu. ft. a day, of which 1,120,000 cu. ft. a day is from the chert beds in the Onondaga lime and the remainder from the Oriskany sand. It is drilling at 6,886 ft., still in sand making that member over 50 ft. thick.

During the past week in the lower eastern fields 29 wells were completed, of which 5 were dry, 15 gas wells and 9 oil producers with a daily initial of 61 bbl.

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TWIN DISC HYDRAULIC DRIVES

Twin Disc Torque Converter Type: Lysholm-Smith

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- Cushions and absorbs all shock loads.
- No gears to shift . . . no clutches to slip.
- No adjustments needed.

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SOUTHEAST OHIO

A new wildcat is starting in Southeast Ohio, where the Natural Gas Co. of West Virginia is hauling in material for an Oriskany test on the E. A. Mobley farm, Section 19, Smith Township, Belmont County. It is the first in the vicinity.

In Mahoning County the deep test of the Magnolia Petroleum Corp. on the F. M. Fields farm, Section 19, Berlin Township, is drilling at 4,444 ft. in the Lockport dolomite. In Geauga County the deep test of the Carter Oil Co. cased off the Oriskany water in No. 1 George W. Cryle, Lot 1, Tract 1, Chardon Township, and resumed drilling and is now carrying a hole full of water from the Newburg.

Licking County

Perry Township: Moran Brothers, 1 Fairall Brothers, Section 7, light showing of oil, Clinton sand 2,800 ft., will shoot.
Early & Davis, 4 Charles Lothes, Section 7, 6 bbl. after shot, Berea, 750 ft.
Stricker & Armbuster, 18 G. E. Patton, Section 6, 4 bbl. after shot, Berea, 789 ft.

Monroe County

Summit Township: Lucas & Thornberry, 1 James H. Green heirs, Section 23, 15 bbl. after shot, lime, 1,217 ft.

Morgan County

Marion Township: Crowley et al, 19 J. A. Lovell, 1 mile south of Chesterhill, frac. 7, dry, Cow Run, 518 ft.

Muskingum County

Wayne Township: Franklin, 1 C. B. Saunders, SE Section 19, 80,000 cu. ft. gas, Clinton sand; expect to shoot in Clinton only; Medina was dry; T.D. 4,320 ft.

Perry County

Clayton Township: Preston Oil, 1 Clyde Hyans, SW Section 7, 10 bbl. and 100,000 cu. ft. gas before shot, Clinton sand, 3,260 ft.
Pure Oil, 2 James A. Hall, NW Section 18, 15 bbl. and 100,000 cu. ft. gas before shot, Clinton sand, 3,265 ft.
Pleasant Township: Allegheny Oil, 3 S. W. Shahan, SW Section 28, 1 bbl., Berea, T.D. 1,031 ft.

SOUTHWEST PENNSYLVANIA

In Allegheny County, Pennsylvania, about 1 mile southwest of the town of Treveskyn in South Fayette Township, E. J. Dunn completed a fair gas well in that old pool as a test on the John Parkes, Sr., farm. A short record follows: Pittsburgh Coal 395-401 ft.; Freeport Coal 985-89 ft., Little Freeport 1,070-74 ft., Salt sand 1,300-65 ft., water 1,310 ft., Big Injun sand 1,510-1,768 ft., Hundred-foot 2,270-2,330 ft., Fifty-foot 2,415-40 ft., Stray and Gordon 2,470-2,536 ft., Fourth sand 2,572 ft., and 4,000,000 cu. ft. a day at that depth, with rock pressure of 600 lb. A second location has been made.

Clarion County

Piney Township: M. J. Rhea, 2 C. R. Wassum, 37,000 cu. ft. gas, Murraysville and Hundred-foot, T.D. 1,184 ft.
Red Bank Township: T. W. Phillips Gas & Oil, 1 David McKinley, 127,000 cu. ft. gas, Hundred-foot, Fifth, and Bradford sands, T.D. 3,000 ft.

Washington County

North Franklin Township: E. H. Tague, 14 Adeline D. McKennan, 30,000 cu. ft. a day, gas sand 1,181 ft., gas 1,237 ft., T.D. 1,243 ft.

Westmoreland County

Allegheny Township: Hyde Park Foundry, 1 Andrew Grinder, 26,000 cu. ft. a day, Speechley, T.D. 3,303 ft.

DRILLING WELLS

Armstrong County Drilling Wells

Cowanshannock Township: Peoples N. G., 1 Michael Maketa, moving in rig.
Plum Creek Township: Shelocta Oil & Gas, 1 Amos Boyer, location.
Valley Township: Local company, 2 W. L. Piest, 200 ft.

Clarion County Drilling Wells

Porter Township: T. A. Swartsfager, 4 C. A. Swartsfager, dry, through Speechley, Sheffield, T.D. 3,040 ft.

Fayette County Drilling Wells

Nicholson Township: Duquesne Gas, 1 Ivan Mallory, tools lost 866 ft., will skid rig.

Greene County Drilling Wells

Richhill Township: O. I. Dille et al, 2 Madison Hughes, Gordon Stray 3,289-3,318 ft., gas 3,293 ft., Fifth 3,468-75 ft., gas 3,470 ft., total 50,000 cu. ft. a day; drlg. 3,640 ft.
Wayne Township: Waynesburg Home Gas, 1 W. A. Elms, Gordon sand 2,897-2,907 ft., gas 2,902-7 ft., 200,000 cu. ft. gas a day blew down to 157,000 cu. ft. a day; drlg. 3,032 ft.

Washington County Drilling Wells

Amwell Township: Carnegie N. G., 2 W. C. McCollum, spudding.

Deep Tests

In Maryland, New Penn Development Co., William

E. Snee, and others, in the test on the Humberson farm on the Accident dome in Garrett County, lost the action of the tools at 6,890 ft. and surveyed the well, finding the hole 19½° out. They will fill back to straighten.

On Laurel Ridge in Stewart Township, Fayette County, Pennsylvania, these operators and E. G. Mueller are drilling at 7,801 ft. in the test on the Gregg L. Neel farm. Work was delayed in changing the cable and the present formation is dark shale.

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. is drilling in a new hole at 5,182 ft. in the No. 2 Piedmont Coal Co. after filling back to straighten. The same company's No. 3 Piedmont Coal Co. is being rigged up.

WEST VIRGINIA

During the past week only two small oil wells were completed, with nothing of unusual interest developing in the district.

Clay County

Henry district: Virginian Gasoline & Oil, V1285 Brown, Swann, & Goshorn, 4 bbl., Injun sand, T.D. 1,734 ft.

Wirt County

Spring Creek district: Oil City Trust, 15 B. C. Tucker, 5 bbl., Salt sand, T.D. 1,340 ft.

GAS WELLS

Boone County

Washington district: Owens-Libby-Owens, 21 Little Coal Land Co., Big lime 1,767-1,907 ft., Big Injun 1,907-97 ft., Berea 2,456-80 ft., 555,600 cu. ft. of gas a day 24 hours after shot, T.D. 2,513 ft.

Braxton County

Birch district: Pittsburgh & West Virginia Gas Co., 7727 C. N. Snodgrass, 155,000 cu. ft. gas, Rosedale salt 1,300 ft., gas 1,312-15 ft., T.D. 1,327 ft.
Pittsburgh & West Virginia, 7731 F. R. Holt, 500,000 cu. ft. gas a day; Rosedale salt 1,323-1,572 ft., Big lime 1,720-1,915 ft., gas 1,897-1,912 ft., T.D. 1,933 ft.

Cabell County

Grant district: Monickel Gas, 1 T. C. Bledsoe, Big lime 1,620-1,790 ft., Big Injun 1,943-50 ft., Berea 2,368-85 ft., 105,000 cu. ft. gas a day 36 hours after shot, T.D. 2,405 ft.

Lincoln County

Union district: Hamlin Natural, 1 John Bragg, drilled deeper, start 2,106 ft., Brown shale 3,136-3,441 ft., gas 3,237-38 ft., gas 3,290-93 ft., 180,000 cu. ft. a day 19 hours after shot, T.D. 3,481 ft.

Pleasants County

Washington district: Ward & Deem, 5 Cassie Dye heirs, dry, Injun sand, T.D. 1,275 ft.

Ritchie County

Union district: Pittsburgh & West Virginia, 4664 William Adkins, drilled deeper, start 1,595 ft., Big lime 1,665-1,740 ft., Big Injun 1,740-1,811 ft., gas 1,802-11 ft., 72,000 cu. ft. a day, T.D. 1,821½ ft.
Grant district: Griffin Producing Co., 1 Raymond McVey (Kennedy), dry, Squaw, T.D. 2,180 ft.

Roane County

Harper district: B. F. Wright, 1 C. L. Kiser, dry, Salt 1,580 ft.

Wayne County

Stonewall district: Owens-Libby-Owens, 21 Hoard Baldwin, Big lime 1,340-1,550 ft., Big Injun 1,550-1,621 ft., Berea 2,142-60 ft., slate 2,160-62 ft., Brown shale 2,604-3,357 ft., Corniferous lime 3,357 ft., Big Injun gas 60,000 cu. ft. a day 17 hours after shot; T.D. 3,362 ft.
Union district: Southern West Virginia O. & G., 12 B. J. Prichard, drilled deeper, start Big lime 1,580 ft.; gas in Big lime, 116,000 cu. ft. a day; T.D. 1,598 ft.

Wirt County

Burning Springs district: Hope Natural, 3210 George W. Richards, drilled deeper, 150,000 cu. ft. a day, Injun, T.D. 2,091 ft.

Wood County

Williams district: C. E. Love, 1 B. F. Chichester, dry, Berea, T.D. 2,075 ft.

ORISKANY FIELDS

No wells were completed in Kanawha County Oriskany sands during the past week.

Poca District Drilling

United Carbon, 830 O. B. Boggess, top Corniferous 4,894 ft., drilling 4,914 ft.
West Virginia Gas, 041 Samuel H. Fields, top Corniferous 4,956 ft., drilling 5,026 ft.

WILDCATS

In Harrison County, the rotary test of the Hope Natural Gas Co., on the G. S. Gribble farm in Grant district, is drilling at 3,570 ft.

In Woods County, the test of Glenn W. Roberts on the C. W. Cook farm in Tygart district is drilling at 1,764 ft.

NEW WORK

Braxton County

Otter district: R. L. McCulty, 4 P. S. Gerwig, elev. 1,050.95 ft.

Gilmer County

Troy district: Massey, 1 J. Lee Butcher, elev. 824 ft.

Kanawha County

Louden district: O. H. Boyles, 1 Edwin Marmet, elev. 730.5 ft.
Spartan Gas Co., 1 J. T. Young et al, elev. 719.8 ft.
Poca district: D. H. Stephenson et al, 1 R. B. Baldwin et al, elev. 730 ft.

Lincoln County

Union district: Sweetland L. & M., 1 Tract 752, Road Fork of Big Laurel, elev. 1,000 ft.

Jackson County

Ripley district: McIntosh & Grimm, 1 Denny E. Anderson, elev. 631.7 ft.

Putnam County

Curry district: Midway City Gas, 4 Rufus Switzer, elev. 720 ft.

Ritchie County

Murphy district: L. E. and W. H. Mossor, 1 C. J. Daugherty, elev. 970 ft.
Clem S. Morris, 1 L. W. Cunningham, elev. 910.7 ft.
Clay district: Glen F. McBurney, 4 A. M. and Ethel Perkins, elev. 1,035 ft.

Upshur County

Meade district: Cumberland & Allegheny Gas, 299 S. H. Winemiller, elev. 2,049 ft.
Banks district: Cumberland & Allegheny Gas, 300 Roy Williams, elev. 1,699 ft.
Buchanan district: Pittsburgh & West Virginia Gas Co., 7752 Eve C. Allman, elev. 1,505 ft.

Wayne County

Union district: Industrial Gas Co., 1 H. M. Adkins, elev. 580 ft.

Rocky Mountain Area

(Continued from Page 81)

Daggett County

Mountain Fuel Supply, 5 Murphy SW NE SW 15-3n-24e Drilling 3,233 ft.

Grand County

Reeder Corp., 1 State.....NE NE NE 16-22s-19e T.D. 1,060 ft.

Summit County

Longwell Pet., 1.....SE SW SE 35-3n-5e Underreaming 4¾-in. to set on bottom, T.D. 3,348 ft.

Michigan Fields

(Continued from Page 82)

Geneva Township: Smith Pet., 2 Kozel-Fellows, communitized, NE SW SW 22-1s-16w, dry, T.D. 1,064 ft.
Pine Grove Township: W. S. Cook, 1 May D. Ray, SW NE NW 35-1s-13w, dry, T.D. 1,305 ft.

Ottawa County

Tallmadge Township: John C. Newell, 1 J. Masterson, SW SW SE 23-7n-13w, 160 bbl., acid, T.D. 1,870 ft.
Edward B. Strom, Tr., 2 J. Masterson, NE NE SE 23-7n-13w, loc. abandoned.

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Several Productive Sands in Southern Montague Wildcat

By
R. MARNE SANFORD

WICHITA FALLS, Tex., Aug. 12.—New operations featured the week's activity in the Fort Worth basin area of North Texas, as several wildcats and new field outposts were started during the past 7-day period. Many of the most closely watched wildcats in the basin are nearing critical stages.

In extreme southern Montague County Walter Gant, 1 Laird, wildcat test indicating the opening of a new field from any one of several zones of saturation reported drilled during the past 2 weeks, reached contract depth and was going ahead below that depth. Located in the R. T. Millard Survey, the wildcat reached 6,000 ft. and was last reported drilling ahead below 6,105 ft. after logging a show of oil in a conglomerate from 6,090-6,105 ft.

Just 2½ miles southeast of this wildcat Cranfield & Rogers spudded their No. 1 McKay, located in the NW cor. Section 8, Falls County School Lands Survey. With surface casing cemented the test was drilling ahead below 800 ft. at the close of the week.

Two new locations were staked during the week to the Hapgood discovery well in eastern Clay County. Phillips Petroleum Co. located No. 1 Hapgood, 330 ft. from the east and 660 ft. from the south lines of Block 60, Marion County School Lands Survey. It is a west offset to the 5,900-ft. discovery well.

Second new location for the Hapgood area was staked by the openers of the field, E. C. Norwood and associates. The new operation is No. 2 Hapgood and is a north offset to the discovery well.

In extreme southwestern Clay County a ½-mile extension has been staked to Shell's three-well Strawn sand field on the Henderson lands. The outpost is Shell, 1 Mullens, NE Section 2604, T.E.&L. Survey.

A new wildcat was started in the Bonita area of Montague County during the week, a mile northeast of production in the Bonita field. Already spudded, it is E. C. Norwood, Seitz, Comegys & Seitz and others, 1 Holland, located in the southwest corner M. Montalba Survey.

Seeking the 3,600-ft. production found in a recent discovery well in Jack County, Continental Oil Co. has spudded a new wildcat test. It is No. 1 J. B. Robertson, M. J. Swan Survey, 1½ miles south of the two-well Cooper-Steed field opened on the Mathis lands several months ago.

A new 4,800-ft. wildcat test has been staked in Archer County and southeast of the Mankins field in the northwestern part of the county. It is British American, 1-E Wilson, located 330 ft. from the north and west lines of Section 2, B.B.B.&C. Survey. The location is 1¼ miles southeast of the firm's production in the Mankins field.

NORTH TEXAS COMPLETIONS
(24-hour gages)

Archer County

Wildcat: W. H. Gant, 1 Vogtsberger, 984 bbl., 4,659-71 ft.
Olney field: Burns, 2 National Bank, 9 bbl., 1,463-73 ft.
Hull-Silk field: Cochran & Cain, 9 Little, 45 bbl., 1,316-20 ft.
Gulf, 20 Siegel, 980 bbl., 3,717-82 ft.
Helmerich & Payne, 1 Moss, 1,180 bbl., 4,261-4,323 ft.
Chapman & McFarlin, 7 Wilson, 1,020 bbl., 4,636-50 ft.

Baylor County

Seymour field: British American, 1 Taylor, abandoned location.

Clay County

Thornberry field: Bridwell Oil, 2 Taylor, dry, T.D. 1,577 ft.
Henderson field: Shell, 3 Henderson, 1,321 bbl., 3,202-08 ft.

Cooke County

Wildcat: Dye, 1 Aldridge, dry, T.D. 1,582 ft.

Jack County

Bloodworth field: Gilmore, 7 Bloodworth, dry, T.D. 331 ft.

Montague County

Bonita field: Magnolia, 2 Gilbert, 1,190 bbl., 5,445-56 ft.
Sinclair Prairie, 1 Gilbert, 2,730 bbl., 5,285-91 ft.

Wichita County

Electra field: Hammon, 2 Womack, 25 bbl., 1,300-30 ft.
K.M.A. field: Bass & Dillard, 11 Kempner, 678 bbl., 3,804-80 ft.

Wilbarger County

K.M.A. field: Waggoner, 4 Waggoner, 1,232 bbl., 3,970-4,000 ft.

Young County

Olney field: Kleiner Oil, 2 Prideaux, 5 bbl., 591-625 ft.

NORTH TEXAS WILDCATS

Archer County

Paul Steed, 1 Prideaux, Sec. 1807, T.E.&L. Sur. Drlg. below 3,975 ft.
Clark, 1 Goldsmith, Blk. 6, S.A.R. Sur. Fishing drill pipe 4,974 ft.

Baylor County

Roy Carter, 1 S. G. Farmer, Sec. 3126, T.E.&L. Sur. S.D. 2,001 ft.
Texas Co., 1 Clements, Sec. 3145, T.E.&L. Sur. First report.

Clay County

L. T. Burns, 1 Calloway, Lot 9, Hopkins County School Lands Sur., Abst. 176. O.W.D.D.; present T.D. 5,356 ft.; new contract depth 6,000 ft.; rigging up.
Horton & Wiggins, 1 W. J. Howard, Blk. 31, T. J. Belcher Sur. Topped saturation 4,660 ft.; coring below 4,662 ft.
Roberts, Lynch & Jones, 1 Edwards, Blk. 40, Madison County School Lands Sur.; 6,500-ft. test. Drlg. 1,322 ft.
Carlos Wagner, 1 Thaston, Sec. 4, T.&N.O. Sur. 5,000-ft. test; first report.

Cooke County

J. D. Hancock, 1 S. P. Alexander, J. Woods Sur., Abst. 1140. Drlg. below 2,350 ft.

Denton County

Amon G. Carter, 1 W. P. and A. P. Allen, S. Westbrook Sur. S.D. 4,000 ft.
Harvey Bros., 1 Knox, R. Howard Sur., Abst. 542. Old total depth 1,357 ft.; cleaning out to drill deeper.

Hardeman County

Norris & Gilbert, 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. Drlg. 3,800 ft.

Jack County

R. A. Conkling, 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope: 3,500-ft. test. Drlg. 2,185 ft.
Continental Oil, 1 Robertson, M. J. Swan Sur., Abst. 1650. Drlg. 355 ft.
Rathke Oil, 1 Moseley, J. Harrison Sur., Abst. 259. 12½-in. set at 894 ft.; 10-in. set at 1,218 ft.; waiting on cement.

Montague County

Walter Gant, 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset. S.S.O. 4,857-77 ft.; cored conglomerate S.O. 5,650-61 ft.; cored shale 5,667 ft.; drlg. 6,123 ft.
Hults & Owens, 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur. Drlg. 4,065 ft.
W. H. Peckham, 1 Dr. Lawson, N. Kimbro Sur., Abst. 405. Total depth 6,113 ft.; S.D.O.
A. R. Dillard, 1 Holland, M. Montalba Sur. 10-in. set at 375 ft.; drlg. below 390 ft.

Throckmorton County

Normandie Oil Corp., 1 Travis, Sec. 37, Travis C.S.L. Drlg. below 4,315 ft.

Wilbarger County

Herbert Oil Co., I. S. B. Peters. Drlg. 3,250 ft.

Wise County

Cranfield & Robers, 1 McKay, Sec. 8, Falls County, School Lands Sur. 7,500-ft. test. Drlg. 900 ft.

Young County

A. T. Strong, 1 Craig heirs, N. Lynch Sur. 6⅝-in. set at 3,840 ft.; sat. lime at 4,225-40 ft.; testing estimated 40 bbl. per hour.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Aug. 12.—Fisher County, long lacking in any form of oil development, was given a wildcat operation during the week. The test will be F. A. Stephenson and associates, 1 J. L. Maberry, located 660 ft. from the south and east lines of SE SW Section 56, Block 1, H.T.&B. Survey. Contracted to 3,400 ft., the test will be drilled with rotary. It is a half mile south of three failures drilled several years ago, none going deeper than the 3,500-ft. level.

A new wildcat starting 2½ miles southeast of the Bowles field in Taylor County is W. F. Sorrells, 1 W. A. Young, SE Section 37, B.B.B.&C. Survey. It is contracted to 1,800 ft. and has been spudded to 250 ft.

In Coleman County a new 1,100-ft. cable-tool test is preparing to start. It is M. R. Stuard, 1 C. M. Minear, located 330 ft. from the north and 1,850 ft. from the east lines of a 369-acre tract in the E. V. Otaw Survey 244.

An indicated ¼-mile south extension for the recently opened Gunsight lime field in Jones County was seen as the week closed. The test is John E. Farrell's second attempt on the Reid lands, Section 31, D.&D.A. Survey. The test drilled 8 ft. of saturation in the Gunsight lime and shut down for completion procedure. Meanwhile, the operator is moving the rig three locations west of the field for another outpost attempt. It will be in Section 32. The field is about 7 miles west of the Griffin field in Jones County.

Definitely opening a new Mississippian lime level for the Stribling field of Stephens County, Hortwitz & Oldom, 4 Maury, in the approximate center of the field, is awaiting official completion gage. The well reported drilling saturation in the lime last week but gages were not available. Reports are that the well has been flowing at the rate of 1,200 to 1,500 bbl. daily into storage during the past week. Pay was drilled from 4,500 to 4,713 ft.

WEST CENTRAL TEXAS COMPLETIONS
(24-hour gages)

Brown County

Crosscut field: Wilson, 1 Armstrong, 7 bbl., 1,438-44 ft.
Grosvenor field: Cullison & Kynaston, 1 Hill, 7 bbl., 1,303-12 ft.
Brooksmith field: Jordan, 1 Rice, dry at 1,484 ft.

Callahan County

Wildcats: Lee, 1 Harris, 20 bbl., 1,219-29 ft.
Thomas, 1 Abram, abandoned location.
Putnam field: Harris, 1 Yarbrough, dry at 330 ft.
Hamlin, 1-A Wagley, dry at 313 ft.
Austin, 3 Yarbrough, dry at 345 ft.
Lawrence, 1 Slaughter, dry at 400 ft.
Trumpeter Oil, 1-A Taylor, dry at 741 ft.
Richmond, 1 George, dry at 702 ft.
Baird field: Woodley, 1-A Hatchett, dry at 435 ft.
Hatchett field: Broman, 4 Harris, 1,000,000 cu. ft. gas 420-21 ft.

Coleman County

Novice field: Bradford & Robertson, 1 Gillespie, 438 bbl., 3,544-68 ft.
States Oil, 3 Morris, 242 bbl., 3,544-79 ft.

Comanche County

Amity field: St. John & Choate, 7 Robertson, 3 bbl., 631-54 ft.

Jones County

Avoca field: Hickok & Reynolds, 1 Dunlap, dry at 1,725 ft.
Reid field: Farrell, 1-B Reid, dry at 2,591 ft.

Shackelford County

Cook field: Roeser-Pendleton, 15-B-113 Cook, 74 bbl., 1,585-90 ft.
Roeser-Pendleton, 16-B-113 Cook, 103 bbl., 1,577-88 ft.

WILDCAT OPERATIONS

Brown County

F. Brittain, 1 G. R. McEnloe, 1,130 ft. NE, 300 ft. NW lines of J. Williams Sur. 33; 1,800-ft. test. S.D. 50 ft.

Callahan County

N. D. Gallagher, 1 E. Grisson, SE pt. Sec. 2, Blk. 8, S.P. Sur. S.D. 1,465 ft.

Comanche County

C. D. Lane, 1 H. W. Strout, 3,080 ft. from N, 2,200 ft. from E lines of E. D. Corbett Sur., Abst. 154. Drlg. 2,100 ft.

Eastland County

L. M. White, 1 W. H. White, NW pt. White tract in H. Kendrick Sur., 10 miles S of Ranger. Drlg. 65 ft.

Hamilton County

A. J. Caldwell, 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur. S.D. 3,010 ft.

Jones County

Best, 1 A. A. McDuff, 5,200 ft. S, 1,100 ft. E lines of J. J. Hughes Sur. 256. Set 6⅝-in. casing at 2,040 ft.

Palo Pinto County

Georgian, 1 J. K. Weldon, A. J. Smith Sur., Abst. 393; 2,500-ft. test. S.D. 1,000 ft.
Fred Guyer, 1 Dalton, Dalton Sur., Abst. 153; 1,400-ft. test. T.D. 1,840 ft.; U.R. 8¼-in. csg.

Parker County

Brown & Gardner Bros., 1 Gilbert, T.&P. Sur., Abst. 1958. Csg. set 3,905 ft.; est. 500,000 cu. ft. gas and spray oil; S.S.O. 4,405-15 ft.; drlg. 4,580 ft.
C. Leidecker and Wm. Holland, 1 J. A. Boyd, NE NE of S 100 ac. of A. J. Edwards Sur.; 4,500-ft. test. S.D. 2,410 ft.

Tarrant County

Hickey, 1 Baltzelle, NE cor. Wm. Scott Sur. Drlg. below 675 ft. in lime.

EASTERN TEXAS

DALLAS, Tex., Aug. 12.—New wildcat activity led the week's work in eastern Texas as field development

throughout the district showed a decided decline over the past week. A total of three wildcats were located throughout the district during the past 7-day period. Only three new oil wells were completed in the East Texas field and only three oil wells and two gas wells were completed in the East Central Texas fields. There were three failures listed for the East Central Texas counties, all being wildcats.

A mile north of Lavender and near Ben Hur in Limestone County Frank Bryan of Mexia staked location for his No. 1 Frank Bevill. It is a proposed 6,000-ft. wildcat and is located on a 14,000-acre block out of which several major companies are reported to have purchased acreage. The name of the survey in which the location falls was not reported, however, drilling contract is reported let.

In Navarro County and 1½ miles east of the Bazzette field in the extreme northern part of the county. W. E. McKinney has staked location for his No. 1 James. The test, to be in the R. D. Newman Survey, is projected to the Woodbine sand found in the Bazzette field.

Bowie County has been given a new shallow wildcat by the staking of No. 1 Smith by Lee Timberlake and Frank Rowe. The site falls in the T. H. Hill Survey, a mile southwest of Old Boston.

In Wood County a recently staked deep 8,500-ft. wildcat has started and is drilling below 1,000 ft. It is Plains Production, 1 Smith, Calderon Survey, northeast of Quitman. It will seek production from the lower Trinity series.

Camp County's newest deep discovery, H. S. Moss, 1 Venters, is holding up to early showings as pressures continue at 180 lb. on casing and 90 lb. on tubing. These pressures have prevailed during the past week as the well has made several flows, all at the rate of about 75 bbl. of oil daily. Whether the operator will acidize the pay section or not is yet undetermined.

EAST TEXAS COMPLETIONS
(1-hour gages)

Gregg County

Kilgore area: Glasscock, 4-A Duncan, 20 bbl., 3,641-51 ft.

Rusk County

Joiner area: Sinclair Prairie, 14-B Tipps, injection well. Texas Canadian, 1 Cox, 20 bbl., 3,595-3,605 ft.

Upshur County

Longview area: B. F. Phillips, Jr., 1 Hawley, 40 bbl., 3,638-45 ft.

EAST CENTRAL TEXAS COMPLETIONS
(24-hour gages)

Anderson County

Long Lake field: Johnson, 1 Johnson, 65 bbl., 5,275-87 ft.
Long Lake Prod., 1 Tucker, 112,000,000 cu. ft. gas, 5,284-5,312 ft.
Long Lake Prod., 8 I.&G.N., 146 bbl., 5,377-82 ft.

Angelina County

Wildcat: Summer-Harris, 2 Condra, dry at 1,583 ft.

Henderson County

Wildcat: La Rue, 1 Davis, dry at 4,577 ft.
Rowe & Baker field: Tyler & Smith, 3 Rowe & Baker, Junked at 2,789 ft. and skidded derrick 20 ft. west for new hole.

Houston County

Grapeland field: Grapeland Oil, 3 Horn, 160,000,000 cu. ft. gas, 6,012-44 ft.

Rusk County

Wildcat: Whittington, 1 Kangerga, dry at 3,093 ft.

Smith County

Chapel Hill field: Sun, 1 Sanders, 64 bbl., total depth 8,201 ft.

WILDCAT OPERATIONS

Falls County

Joy Carruth, 1 Westbrook, Manchaca Sur., 3½ miles NE of Chilton. Drlg. 39 ft.

Freestone County

L. F. Grey, 1 O. B. Utley, S. J. Claypool Sur., 4 mi. N of Fairfield. T.D. 4,098 ft.; topped water sand at 3,995 ft.

Kaufman County

T. G. Shaw, Tr., 1 Agnes Wynne, B. S. Newman Sur., 8 mi. E Kaufman, lower Trinity test. T. anhy. 5,934 ft.; T. Massive 6,123 ft.; B. Massive 6,255 ft.; T.D. 6,454 ft.; cleaning out hole at 5,000 ft.

Leon County

Alexander & Wilhite, 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee. Drlg. 1,615 ft.

Limestone County

Frank Bryan, 1 Bevill, 1 mi. N of Lavender and near Ben Hur; 6,000-ft. test. First report.
Frank Bryan, 1 F. Bevill, J. H. Murray Sur., 1 mi. SW Horn Hill. Moving in materials.

Morris County

C. B. Zuber, 1 G. A. Connor, N. Smithwick Sur., 5½ mi. SW Daingerfield. Set 13⅜-in. csg. at 85 ft.; drlg. below 2,710 ft.; topped Pecan Gap at 2,525 ft.

(Continued on Page 94)

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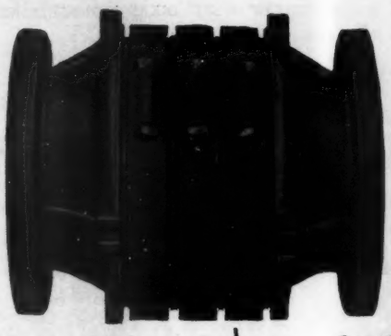

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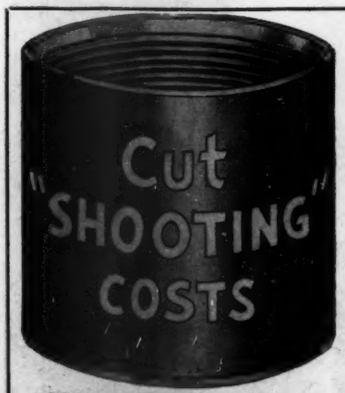

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3	3.260	2¾	11½ to 8	STRAIGHT OR TAPER	1350
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By

R. MARNE SANFORD

Shallow Production Found in Ward County Wildcat Well

MIDLAND, Tex., Aug. 12.—Indications of a new field discovery in Ward County led the developments of the week in the Permian basin area, the wildcat being Sinclair Prairie, 1 Davis, just southeast of the Shipley field in Ward County. Casing was being run at the close of the week in the recent discovery in the Pecos Valley field. Holding the attention in the northern part of the basin was the staking of new wildcat outposts for the link area between the Duggan and Slaughter fields.

SOUTHERN WEST TEXAS

Sinclair Prairie, 1 Davis, located in N cor. of W Section 32, Block 4, H.&T.C. Survey, was preparing to make pumping tests as the week closed. The well drilled pay in dolomite and sand from 2,355-75 ft., the upper pay section of the two-pay Shipley field just 3 miles to the northwest. When bottomed at 2,375 ft. oil rose 200 ft. in the hole in two hours, an 8-hour bailing test succeeding in lowering the oil level only 20 ft. or to 180 ft. off bottom. After making the bailing test 7-in. casing was run to bottom and the last joint perforated and packer set at 2,327 ft. No pumping gages had been reported at the close of the week.

A deep test in the same area is attracting considerable attention as it prepares to go below 9,000 ft. Drilled as a tight well, little accurate information is available. However, several shows of oil are reported to have been found, the latest one being at about the 8,900-ft. level. It is Gulf, 5 Wristen Brothers, Section 18, Block 5, H.&T.C. Survey, the deepest wildcat now active in the Permian basin.

Pecos County's new discovery of last week, Ward-Pecos Petroleum, 6-DE Pecos Valley, opening a new and deeper level for the Pecos Valley low-gravity field, was last reported running 5½-in. casing in an attempt to cement off the water present with the oil flow. During the past week the well has consistently made 500 bbl. of oil and 500 bbl. of water daily from the pay drilled from 2,043-49 ft. It is in the N½ SE Section 36, Block 3, H.&T.C. Survey.

A new wildcat location in Upton County is J. W. Ellis of San Angelo and associates, 1 A. S. Burleson, located in the NE Section 65, Block 35, H.&T.C. Survey. It is contracted to 2,200 ft. and is about 1½ miles southeast of production in the McCamey field.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Crane County

Wildcat: Gulf, 5 McKnight, dry at 7,614 ft.
Sand Hills field: Humble, 40 Tubb, 1,349 bbl., 4,236-4,404 ft.
McCamey field: Texas, 46 King, 249 bbl., 2,329-85 ft.

Ector County

North Cowden field: Barnsdall, 15 Smith, 1,323 bbl., 4,060-4,200 ft.
Cities Service, 5 Rhodes, 3,712 bbl., 4,055-4,200 ft.
Texas, 2 Holt, 861 bbl., 4,295-4,400 ft.
Johnson field: Great Western Prod., 3 Johnson, 892 bbl., 3,937-4,178 ft.
Stanolind, 20 Johnson, 390 bbl., 4,062-4,225 ft.
Goldsmith field: Gulf, 297 Goldsmith, 1,012 bbl., 4,140-4,200 ft.
Gulf, 298 Goldsmith, 891 bbl., 4,134-95 ft.
Gulf, 299 Goldsmith, 187 bbl., 4,135-80 ft.
Gulf, 301 Goldsmith, 682 bbl., 4,200-58 ft.
Phillips-Pure, 98 Cowden, 3,030 bbl., 4,101-51 ft.
Phillips-Pure, 99 Cowden, 1,018 bbl., 4,113-43 ft.
Phillips-Pure, 100 Cowden, 1,320 bbl., 4,130-4,201 ft.
Foster field: Shell, 4-C Witcher, 1,039 bbl., 3,900-4,100 ft.

Pecos County

Pecos Valley field: Lynch, 1 Cords, 40 bbl., 2,038-2,120 ft.
Tobarg field: Rife, 35 Tippett, 9 bbl., 398-412 ft.
Wildcat: Sides, 1 Blackstone, dry at 1,705 ft.

Reagan County

Wildcat: Ringo, 1 fee, dry at 3,335 ft.

Upton County

McCamey field: Continental, 17 Burleson, 80 bbl., 2,087-2,130 ft.; old well drilled deeper.
Gulf, 104 McElroy, 4,146 bbl., 2,805-59 ft.

Ward County

Estes field: Gulf, 136 Estes, 1,105 bbl., 2,525-2,693 ft.
Gulf, 138 O'Brien, 1,668 bbl., 2,540-2,773 ft.
Gulf, 139 O'Brien, 173 bbl., 2,575-2,685 ft.
Hutchins field: Gulf, 145 Hutchins, 2,890 bbl., 2,458-2,727 ft.

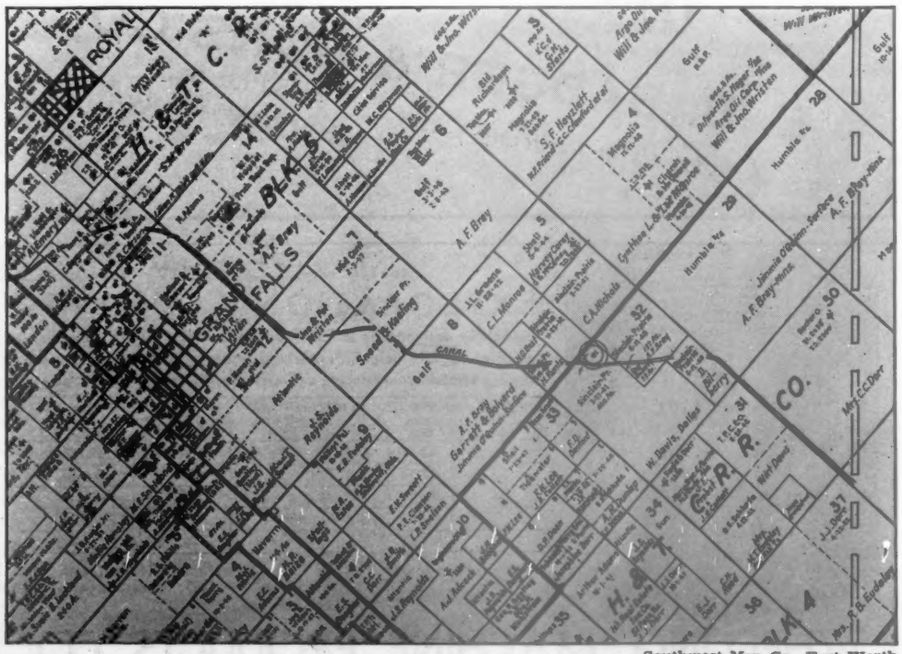
Winkler County

Keystone field: Bates & Reading, 3 McCabe, 288 bbl., 2,875-3,010 ft.

WILDCAT OPERATIONS

Crane County

Moore Bros., 2 Barnsley, NE NE Sec. 42, Blk. 42, P.S.L. Sur., 2 mi. SE of Gulf Oil Corp.'s discovery well, No. 1-A Tubb. Spd.; no report.



Southwest Map Co., Fort Worth

Newest field indicated in the southern Permian basin area is Sinclair Prairie, 1 Davis, southeast of the Shipley field in Ward County. A section of saturation has been drilled and testing for completion is under way

Gulf, 1-F University, SE SE Sec. 22, Blk. 31, Univ. Sur. Drlg. 3,310 ft.

Hudspeth County

Haymon Krupp, 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. 5½-in. csg. cmtd. at 6,202 ft.; drlg below 6,211 ft.

Pecos County

Plymouth, 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur. Drlg. 6,287 ft.
Taubert, McKee & Siemoneit, 1 Crockett, SW Sec. 4½, Blk. 3, H.&T.C. Sur. Drlg. 2,380 ft.

Sutton County

Domain, 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.& N.G. Sur., Ellenburger lime test. S.D. 1,088 ft.

Ward County

Gulf, 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. below 9,000 ft.
Sinclair Prairie, 1 Wirt Davis, 330 ft. NW, 2,310 ft. SW lines Sec. 32, Blk. 4, H.&T.C. Sur.; 3,500-ft. test. Drld. saturation 2,355-75 ft., set csg. 2,375 ft.; tstg.

Winkler County

Gulf, 136 O'Brien, SE SW Sec. 11, Blk. F, G.&M.M.B.&A. Sur. Wtr. at T.D. 3,187 ft.; P.B. 2,970 ft. Gaged 25 gal. oil and 6 gal. water per hour on latest test; still testing.

NORTHERN WEST TEXAS

Continuing the development program for the vast and now combined Duggan and Slaughter areas in Cochran and Hockley counties, Magnolia Petroleum Co. has staked two new tests in the link area. The first to be located during the past week was No. 1 F. L. Woodley, 580 ft. from the south and east lines of Subdivision 6, League 57, Oldham County School Lands Survey, northwest of the Duggan area proper. The second new location is No. 1-D Mallett, Labor 6, League 49, Edwards County School Lands Survey, in the Hockley County portion of the link area. The latter location is 2 miles east of the recent producer which definitely linked the large fields.

In extreme southeastern Andrews County Texas Pacific, 1-A Midland Farms, wildcat test which is testing for successful water shutoff, reported that the operation was complete at the close of the week. Water had been encountered in the prospective field opener at 4,873½ ft., total depth. With total depth now 4,865 ft., the test last reported a swabbing gage of 10 gal. of oil hourly for 24 hours. Oil-saturated lime had been drilled from 4,850 to 4,870 ft. with some water showing from 4,865 to 4,873½ ft. The company plans to test for several more days before determining the future course of the wildcat.

NORTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Gaines County

Seminole field: Amerada, 5 Riley, 904 bbl., 5,042-5,230 ft.
Ohio, 2 Gibbs, 662 bbl., 5,080-5,282 ft.
Ohio, 2 Tippett, 927 bbl., 5,114-5,297 ft.

Howard County

Magnolia, 24 Roberts, 331 bbl., 1,325-1,393 ft.
Sinclair Prairie, 67 Dodge, 156 bbl., 2,600-2,820 ft.

Mitchell County

Northwest field: Hanes, 1 Grable, 223 bbl., 1,598-1,732 ft.
Hilburn, 1 Strain, 86 bbl., 1,697-1,801 ft.

Scurry County

Sharon field: Dobson & Robinson, 3 Burney, 336 bbl., 2,259-2,458 ft.

Yoakum County

Wasson field: Aloco, 4 Elliott, 22 bbl., 5,045-5,251 ft.
Aloco, 7 Keller, 563 bbl., 4,980-5,165 ft.
Aloco, 10-B Willard, 472 bbl., 4,941-5,232 ft.
Carter-Continental, 6 Willard, 1,408 bbl., 4,880-5,060 ft.
Danvers, 2 Allen, 209 bbl., 5,050-5,245 ft.
Shell, 13-E Baumgart, 1,316 bbl., 4,876-5,170 ft.
Shell, 14-E Baumgart, 1,529 bbl., 4,876-5,175 ft.

WILDCAT OPERATIONS

Andrews County

Phillips, 1 Embar, 60 ft. from S line of Sec. 31, Blk. 10, University Lands Sur. Drlg. 894 ft.
Texas Pacific, 1-A Midland Farms, NE NW Sec. 1, Blk. 40, Twp. 1n, T.&P. Sur., 5,000-ft. test. T.D. 4,873½ ft., P.B. 4,865 ft. Tstg. 10 gal. oil and 8 bbl. wtr. per hour.

Brewster County

J. W. Quinn, Tr., 1 S. L. Strumburg, NW cor. SE Sec. 70, Blk. G, M.K.&T.E. Sur.; 2,500-ft. test. 10-in. csg. 990 ft.

Howard County

C. T. McLaughlin, 1 Pete Johnson, NE NE Sec. 34, Blk.

32, Twp. 1n, T.&P. Sur. S.D.O. 3,431 ft.; hit sulfur water.
M. L. Richards, 1 Thelma J. Cole, SE NW Sec. 12, Blk. 26, H.&T.C. Sur.; 3,500-ft. test. Sulfur water 2,986 ft., S.D.

Stonewall County

Shell, 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.&T.C. Sur.; Ordovician test. Drlg. 4,610 ft.
Shell, 1 Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Top Mississippian at 6,007 ft.; top saturation at 6,015 ft. and drilled to T.D. 6,028 ft. in saturation; flwd. 280 bbl. oil in 24 hours; T.D. 6,085 ft.; well flwd. 68 B.O.P.D. Latest flow was 95 B.O. in 6 hours through casing; still testing.

Yoakum County

Sloan & Zook, 1 Waples-Platter, Sec. 565, Blk. 4, Gibson Sur. Top anhydrite at 2,550 ft.; top Yates sand at 3,700 ft.; top Brown lime at 4,340 ft.; rigging up cable tools 5,080 ft.

TEXAS PANHANDLE

AMARILLO, Tex., Aug. 12.—Greatest setback to wildcatting in the Panhandle area in several months was the abandonment this week of Humble Oil & Refining Co.'s deep test in Hall County. The test, No. 1 Weaver, located in Section 51, Block 1, S.P. Survey, was originally contracted to 7,500 ft. but was abandoned in what was identified as solid granite at 4,840 ft. after penetrating it 2 ft. A drill-stem test was made in the wildcat at 4,546 ft., but no shows of oil or gas were recovered.

Completions for the week in the Texas Panhandle included 10 new oil wells and 5 new gas wells. The total aggregate potential of the oil wells was 2,199 bbl. and the aggregate initial flow of the gas wells amounted to 90,250,000 cu. ft.

TEXAS PANHANDLE COMPLETIONS

(24-hour gages)

Carson County

Cities Service, 37 Burnett, 29,800,000 cu. ft. gas, 2,130-2,440 ft.
Gulf, 29 Cooper, 270 bbl., 3,070-3,107 ft.
Magnolia, 85 fee (244), 76 bbl., 3,020-95 ft.

Gray County

Magnolia, 24 Merten, 121 bbl., 2,980-3,061 ft.
S. & M. Oil, 7 Worley, 215 bbl., 3,193-3,286 ft.
Stanolind, 14 Merten, 212 bbl., 3,240-3,319 ft.

Hall County

Wildcat: Humble, 1 Weaver, dry, T.D. 4,840 ft.

Hutchinson County

Cree & Hoover, 7 Haile, 320 bbl., 2,955-3,015 ft.
Gulf, 99 Dial, 189 bbl., 2,825-2,953 ft.
Huber Corp., 2 Carver, 13,000,000 cu. ft. gas, 3,030-3,163 ft.
Murphy, 1 United Prod., Inc., 126 bbl., 3,110-3,233 ft.
Barnsdall, 12 Lewis, 85 bbl., 2,927-95 ft.
Barnsdall, 4 Harrington, 7,900,000 cu. ft. gas, 2,962-3,175 ft.
Phillips, 1 Katherine, 6,400,000 cu. ft. gas, 2,825-3,071 ft.
Gibson Oil, 5 Harvey, 385 bbl., 2,935-3,015 ft.

Moore County

Shamrock Oil & Gas, 3 Thompson, 33,150,000 cu. ft. gas, 2,730-2,900 ft.

WILDCAT OPERATIONS

Childress County

Texas, 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur.; 7,500-ft. contract. Drlg. below 3,650 ft.

Sherman County

I.T.I.O., 1 Bryan, C NW Sec. 369, Blk. T-1, T.&N.O. Sur. Plugging back to 3,350 ft., to complete as gas well.

Swisher County

Krupp-Flaherty, 1 Kleen, Sec. 120, Blk. 10-M; 6,500-ft. test. Preparing to resume operations below 800 ft.

SOUTHEAST NEW MEXICO

HOBBS, N. M., Aug. 12.—Wildcat activity held attention during the past week as one new test was located in the increasingly active central Eddy County area. Several of the recently staked wildcats in the area are making good progress toward their contracted depths.

The new location was staked by Neal Wills of Carlsbad and George T. Abell of Midland as their No. 1 Hale, located 6 miles east and slightly north of the Getty field in Eddy County, in SW SW SE 12-20s-30e.

Ventura Oil Co., 1 Lowe, wildcat recently staked in northeastern Lea County and in the SW SE 26-13-37, was last reported drilling ahead below 5,179 ft. in hard lime with no shows yet reported. The wildcat topped the San Andres lime at 4,610 ft. or 747 ft. above sea level. This places it 74 ft. higher than Reynolds, 1 Anderson, a failure located 4 miles to the west.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

Artesia Field

Nash, Windfohr & Brown, 13-A Jackson SW SE 12-17-30
Flowed 225 bbl., 3,285-3,470 ft.
Macy & Talmadge, 1 State ..... SE SW 16-17-31
Flowed 65 bbl., 3,390-3,571 ft.
Danciger, 7-A Turner ..... SE NW 19-17-31
Flowed 300 bbl., 3,278-3,442 ft.

Lea County

Arrowhead Field

Continental Oil, 9-J-2 State ..... SW NE 2-22-36
Flowed 160 bbl. hourly, natural, through casing, 3,758-3,859 ft.

South Eunice Field

Cities Service, 2-B Closson ..... NE NE 19-22-36
Flowed 240 bbl. in 6 hours, 3,785-3,820 ft.
T.P.C.&O., 19-A-State ..... SW SE 7-22-36
Flowed 360 bbl., 3,793-3,838 ft.

Rhodes Field

Anderson-Prichard, 1 Morris ..... NE SW 27-26-37
Flowed 217 bbl. in 16 hours, 3,196-3,273 ft.

Vacuum Field

Texas, 2-U State ..... SE NE 2-18-34
Flowed 205 bbl. in 4 hours, natural, 4,450-4,710 ft.

SOUTHEAST NEW MEXICO ACTIVE WILDCATS

Eddy County

Beddingfield & Walker, 1 Seale ..... SE SE 10-20-27
Running 8¼-in. to 435 ft.
Talmadge, 1 State ..... SW NE 24-16-28
Drlg. below 1,640 ft.
Jones & Yates, 1 Everest ..... NE SE 15-18-26
Drlg. 550 ft.
Trojan, 1 Grant ..... SW NE 33-20-25
T.D. 1,590 ft.; reaming casing 1,185 ft.
Schumacker, 1 Levers ..... NE NE 33-16-29
T.D. 2,825 ft.; bailing 35 B.O.P.D.
J. B. Cowden, 1 State ..... SW SE 3-17-20
Between Root field and High Lonesome. T.D. 2,976 ft.; Pumping estimated 10 B.O.P.D.
Artesia Drlg. Co., 1 Hoffman ..... SE SE SE 14-17-24
Est. 1,250,000 cu. ft. at 938 ft.; prep. resume drilling below 1,285 ft.
M. Yates, 1 Williams ..... NE NW 25-18-26
First report.
Black & Ratliff, 1 Simmons ..... SE NW 9-21-25
Drlg. 195 ft.
A. & M. Pet., 2 State ..... NW SE 15-21-17
M.I.M.

Lea County

Stanley & Weiner, 1 Saunders ..... NE NE 20-21-38
Drlg. 1,700 ft.
Venture Oil, 1 Lowe ..... SW SE 26-13s-37e
6,000-ft. test. Top anhydrite 2,190 ft. Top Yates sand 3,150 ft. Drlg. below 5,179 ft.
Great Western Prod., 1-D State ..... SE SE 30-12-32
Drlg. below 1,160 ft.

Otero County

R. H. Ernest, 1 Located Land Co. ..... SE SE 20-25-7
Drlg. below 3,596 ft. with 3,250 ft. of salt water in hole.

Seek Increased Allowable For Wade City Field

AUSTIN, Tex.—Increased allowable for the Wade City field in Jim Wells County was sought Friday in a Railroad Commission hearing by producers on contentions a higher flow would cause less waste.

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Among the Drilling

HARVEY Drilling Co., Wichita Falls, Tex., on land recently obtained, will drill a series of 10 wells in the Slaughter field of Hockley County, West Texas. The acreage was obtained in a farmout deal with San Andres Oil Co. of Dallas and Harvey Drilling Co. has an option to drill the 10 wells. Rig now is being moved in for the first test, which will be in the SW cor. of Labor 32, League 40, Maverick County School Lands Survey, in the extreme northern part of the field.

TARGET Drilling Co., Wichita Falls, Tex., has started a new outpost to the two-well Cooper-Steed field in Jack County, North Texas, for Continental Oil Co. It is in the J. B. Robertson lands of the M. J. Swan Survey, 1½ miles south of the two wells in the field. It is contracted to the 3,600-ft. level found in the discovery well.

JOHN E. FARRELL, drilling contractor and producer of Fort Worth, Tex., has been given contract for a recently staked wildcat test in Limestone County, eastern Texas. It will be for Frank Bryan of Mexia and is his No. 1 Frank Bevill, a proposed 6,000-ft. wildcat on the 14,000-acre block. The test will be a mile north of Lavender and near Ben Hur, the exact footage of the location yet undetermined.

J. B. DANIEL, contractor of Fairfield, Tex., has been awarded the drilling of a wildcat in Navarro County, eastern Texas. It is for Butler & Calhoun Oil Co. and W. E. McKinney, both parties of Corsicana, and the location is on the T. L. James tract, in the R. D. Newman Survey. Contractor is rigging up and plans to spud the 3,200-ft. test over the week end. The location is 5 miles southwest of the Bazette Woodbine sand field in extreme northern Navarro County.

FALCON-SEABOARD Drilling Co. abandoned the company's No. 1 Folse, a wildcat located in Iberville Parish, coastal Louisiana. The well was quit at a total depth of 11,502 ft. The company has another operation in the Pearsall field, Frio County.

ROWAN Drilling Co. is drilling below 4,000 ft. on its No. 2 Hubbard located in the recently opened Rowan field, Brazoria County, Southwest Texas.

MILAM Drilling Co. abandoned No. 1 Valerio, a wildcat located 11 miles west of San Diego, Duval County, Texas. The well was drilled jointly with Atlantic Refining Co., and the hole was quit at a total depth of 4,860 ft.

COMPLETE Oil Well Service, Inc., opened an important extension or a new field, northeast of Rincon field, Starr County, Southwest Texas, as No. 1 Yzaguirre flowed 6 bbl. of distillate per day through ⅛-in. choke while testing through perforated casing at 4,896-4,904 ft.

CROSBY Drilling Co. is scheduled to start another test in the Bancroft field, Beauregard Parish, Louisiana, as a location was made for No. 2 Republic Production Co. In Liberty County, Texas, contract was received from John Mayo and associates for a Cockfield test to be drilled about 3,000 ft. southwest of production in the Cleveland field. The well is located on the R. D. MacDonald lease in the James Eldridge Survey. Material is being moved to the location.

JACK FRAZIER is rigging up for another test in the Mount Houston area, Harris County, Texas. Location was made for No. 4 Griffith, Lot 5, Block 28, in the A. Smith Survey.

LOFFLAND BROTHERS opened production from a new sand in the Lake Salvador field, Plaquemines Parish, coastal Louisiana, as California Co.'s No. 1 Delta Minerals flowed pipe-line oil from sand at 7,485-90 ft.

AL BUCHANAN Drilling Co. is preparing to make a production test of H. R. Cullen's No. 1 Washburn ranch, an interesting Wilcox test located near Fowlertown in La Salle County, Texas. Drilled to a total depth of 8,300 ft., 5½-in. casing was cemented at approximately 5,600 ft., preparatory to testing two sands at 4,750-64 ft., and at 5,416-28 ft. Another rig is being used on the same operator's No. 1 Wildenthal, several miles from the present well in La Salle County.

EDWARDS Drilling Co. extended production in the Old Ocean field, Brazoria County, Texas, about 1,300 ft. southeast with the completion of Fidelity Oil & Supply Co.'s No. 1 Chenault. Another rig is operating in the field for Harrison & Abercrombie.

NOBLE Drilling Co. is drilling below 9,596 ft. in No. 2 Hulen, 1,300 ft. southwest of the discovery well of the Alta Loma field, Galveston Coun-

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Contractors

ty, Gulf Coast Texas. This well is being drilled for Stanolind Oil & Gas Co. and is reported to have logged the discovery sand at approximately 9,100 ft., and the hole is being drilled deeper after a string of 7-in. casing was cemented below 9,200 ft.

JORDAN Drilling Co. completed a third producer in the Segno field, Polk County, Texas, with the completion of No. 1 Hughes. The rig is expected to be moved to another location.

ALLEN & MORRIS are drilling below 8,900 ft. in American Liberty Oil Co.'s No. 8 Bruni, a Wilcox test located in the Bruni field, Webb County, Southwest Texas. One rotary is operating in the La Rosa field, Refugio County, for Coronado Corp., while at the Wade City and Agua Dulce fields two rigs are running for McElvain and Agua Dulce Oil Co.

OLSON Drilling Co. of Tulsa has contracted to drill V. A. Hardin's No. 1 Valentine, a 6,500-ft. wildcat 9 miles southwest of Lisbon in Claiborne Parish, North Louisiana.

ROBERT WELLS & SONS, Richmond, Mo., drilled two wells in the shallow gas field in Caldwell County, Missouri sector of the Forest City basin, for O. M. Evans of Tulsa and are starting two more tests for the same operator, using a water-well drilling machine to around 410 ft.

CLAY BROTHERS, Hugoton, Kans., have contracted to drill two wildcats in Texas County, Oklahoma Panhandle, for Peerless Oil & Gas Co. of San Antonio. Locations are near the town of Hooker, west of the Hugoton gas field.

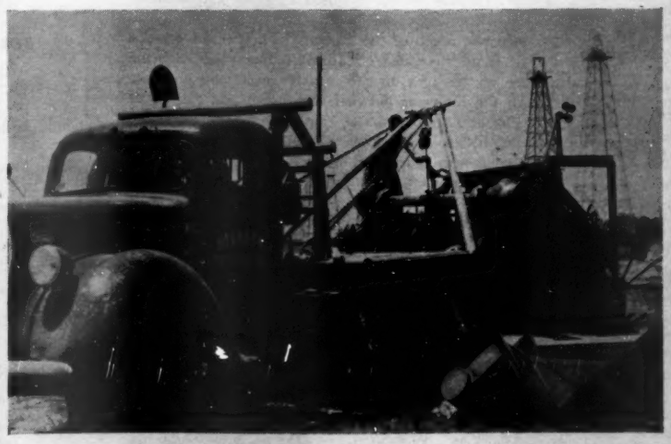
BERRY BROTHERS, Tulsa contractors, erected derrick and were due to spud at Don R. Feagin's wildcat in Section 8-9-11, Hughes County, Oklahoma. Cable tools will be used and Gilcrease, Booch and Cromwell sands may be tested.

OLSON Drilling Co., Tulsa, was completing a producer in the Whelan pool, Barber County, Kansas, after topping Mississippi lime at 4,293 ft. and drilling to 4,337 ft., total depth. It flowed 40 bbl. of oil in the first hour of a test.

YATES & JONES, Artesia, N. M., contractors, are starting a second test in the new oil area recently opened "west of the Pecos" in Eddy County, New Mexico, at Martin Yates and others' No. 1 McCall, near the village of Dayton.

BIG CHIEF Drilling Co., Oklahoma City, is seeking Wilcox sand production in the old Alabama pool, Hughes County, Oklahoma, at Big Chief and Kenneth Ellison's No. 1 Byrd, Section 4-9-11. Location is on a deep-rights farmout from Shell Oil Co. The Glenn, Deaner and Lyons pays are productive in the pool.

LEE Drilling Co. has started drilling the second well to be started in the Nebraska sector of the Forest City basin by a major operator. It is Skelly Oil Co.'s No. 1 Davisson, offsetting the largest producer yet completed in the Falls City pool.



Breakdowns while drilling are so expensive that efficient contractors inspect their equipment after each well and make any necessary repairs while the rig is waiting between locations. The picture shows a Herndon Drilling Co. truck installing the cathead-shaft in a hoist in the Salem, Ill., field, after it has been to the shop for repairs

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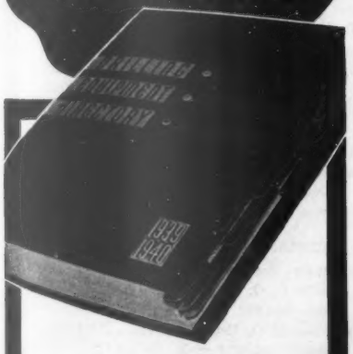

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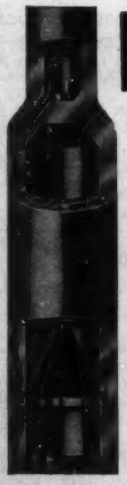

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Joaquin Area Test Is Close to Lower Glen Rose Formation

By
GEORGE WEBER

SHREVEPORT, La., Aug. 12.—Drilling continued light in the tristate area during the past week, but interest is strong in several tests in wildcat and edge locations. Tests at critical depths in North Louisiana and East Texas are being currently watched, and other wildcats beginning and drilling at shallow depths will support interest for several weeks, it is expected.

EAST TEXAS BORDER

The Joaquin area, embracing eastern Shelby County, Texas, and western De Soto Parish, Louisiana, is of particular interest this week. Union Producing Co. is drilling No. 1-A Garrett southeast of the Joaquin gas-condensate field in Shelby County, and is coring at latest reports below 5,067 ft., approaching the lower Glen Rose pay in the field proper. From the extent of the Joaquin structure from geophysical information it is expected that the well will encounter some production in that formation. The second test scheduled for the area, Union Producing, 1-B Garrett, in De Soto Parish, northeast of the field, is scheduled to begin after the first test is completed.

Elsewhere in East Texas border counties, three heavy rigs are drilling on edge and outpost locations in the Waskom area of Harrison County, 10 active tests are located in the shallow Smithland and Caddo fields of Marion County, the deep Rodessa test in the Jefferson district of Marion County continues to test the pay, and a new Bowie County wildcat was staked. In the latter county Shell Oil Co., Inc., abandoned the No. 1 Wall at 6,222 ft., after finding no oil shows in the Rodessa or Pine Island members of the lower Glen Rose formation.

EAST TEXAS BORDER FIRST REPORTS

Wildcat—Bowie County

Lee Timberlake and Frank Rowe, 1 Smith, T. H. Hill Sur.

EAST TEXAS BORDER COMPLETIONS

Wildcat—Bowie County

Shell Oil Co., Inc., 1 W. D. Wall, 6,450 ft. E line, 4,100 ft. S line, John Downey Sur. Dry. T.D. 6,222 ft.

Smithland—Marion County

Lamar Lindsay, 3 Sid Hart, 190 ft. N, 220 ft. E, SW cor. 20-acre tract, G. Coore Sur., pumping 48 bbl., T.D. 2,365 ft

EAST TEXAS BORDER WILDCATS

Bowie County

W. E. Neill, 1 L. Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur., T.D. 2,320 ft., report S.S.O., ran electrical survey, W.O.

Harrison County

Arkansas-Louisiana Gas, 1-D Abney, James Shandoin Sur., set 13⅜-in. casing 150 ft., coring 5,913 ft.
Arkansas-Louisiana Gas, 1 Speights unit, 370 ft. N, 400 ft. E, SW cor. E. Little Sur., drilling 3,826 ft.
Union Prod., 1 Karslake, T. D. Wilson Sur., 2½ miles SW of Waskom area, coring 5,623 ft.

Marion County

Henry & Parson, 1 W. C. Ralph, Eli Usury Sur., 3 miles N of Jefferson, set 9⅝-in. casing 1,012 ft., flowing gas and no oil, killed, set 5½-in. casing 6,000 ft., perf. 5,986-98 ft. and 5,974-80 ft., tested gas, small S.O., perf. 5,960-68 ft. and 5,890-94 ft., testing.

Sabine County

Sterm & Womack, 1 I. K. Kieth Southwestern Lands, 400 ft. SL, 500 ft. EL, 53-acre tract, L. Grace Sur., drilling shale 6,047 ft.

Shelby County

W. C. Parker, 1 F. G. Willey, 480 varas NL, 240 varas EL, 94-acre tract, A. K. English Sur., T.D. 3,482 ft., set 5½-in. casing 3,471 ft., swabbed S.O.&G., acidized with 1,000 gal., testing.
P. & B. Oil, 2 W. C. Windham, A. K. English Sur., set 10-in. casing 170 ft., T.D. 5,335½ ft., pumped 20 B.F.P.D., 50 per cent salt water, acid and pumped 5 B.O. and 28 bbl. salt water, S.I.
Superior Oil Co. of Tulsa, 3 Pickering Lumber Co., 1,620 ft. SE, 660 ft. W easternly NE cor., Thomas Haley Sur., drilling 3,735 ft.
Union Producing, 1-A Mrs. M. E. Garrett, 932 ft. due E, WL, 1,485 ft. N 30° W SL, W. M. Moody Sur., set 9⅝-in. casing 1,653 ft., coring 5,067 ft.

NORTH LOUISIANA

Claiborne Parish takes the spotlight in North Louisiana, with five active tests. The deepest, Ohio, 15 Taylor, deep Haynesville test, is approaching the Roseberry and Sexton sands which are productive at Shongaloo to the southwest. The test found no production shows in the Bodcaw section of the lower Marine formation, which produces in the Cotton Valley field, 10 miles south, but will explore the lower Cotton Valley and probably drill into the Buckner and Smackover lime formations.

Estimated Daily Production

Estimated daily gross production for week ending August 9 follows:

NORTH LOUISIANA

	Bbl.
Bellevue	465
Caddo light	5,760
Caddo heavy	2,185
Converse	525
Cotton Valley	*14,005
Cross Lake	3,585
De Soto and Red River	985
Elm Grove	310
Haynesville	2,705
Holly	75
Homer	2,850
Lisbon	3,800
Olla	2,445
Pleasant Hill	95
Rodessa	18,605
Sarepta-Carterville	†325
Sligo	2,145
Sugar Creek	25
Urania	2,510
Zwolle	1,660
Total	65,060
Rodessa (Texas)	13,730

SOUTH ARKANSAS

Atlanta	2,700
Big Creek	90
Buckner	2,240
Champagnolle	1,160
Dorcheat	1,100
El Dorado	1,655
Fouke	305
Lewisville	600
Lisbon	220
Magnolia	21,500
McKamie	320
Miller County	330
Nevada	530
Nick Springs	500
Rodessa	1,960
Schuler	18,400
Smackover light	1,660
Smackover heavy	13,340
Stephens	540
Troy	1,220
Urbana	1,600
Village	1,105
Total	73,075

*3,815 bbl. is distillate. †50 bbl. is distillate.

Test North of Lisbon

A wildcat which will command considerable interest in the next few weeks is Union Producing, 1-A Meadows. The test is located on a large block, estimated at 10,000 acres, north of the Lisbon field. It is understood that a large structure is indicated from the shooting picture of the area on the massive anhydrite, and although the intervals between that level and the Pettit lime pay at Lisbon and the Travis Peak gas sands underlying it, are not known to be regular, the test is expected to run much higher than those drilled to the south in Lisbon.

Last year the Lisbon Exploration, 1 Vaughn was deepened from the Pettit horizon to a total depth of 8,900 ft. The Travis Peak formation showed the presence of several sizable sand bodies carrying salt water, in addition to the three thinner bodies which tested gas and oil, one of which is now producing high-pressure gas. Due to the location of the Union test higher on structure, it may be expected that some of the sands testing salt water at Lisbon, may prove productive of oil or gas to the north of the field.

In addition further Pettit lime production is possible. The Pettit lime shows wide variation in porosity throughout the Lisbon field, and its limits on the northwest and northeast are marked by tight sections of lime. It is possible that the lime may be porous on other flanks of the indicated structure, thus extending the field, or opening other pools to the north of the present field. The Union deep test may reveal much important information regarding these conjectures.

A second deep Lisbon test has been staked; J. D. Caruthers, trustee, 1 Simmons unit, located in the west central sector of the field. Operations are expected to get under way on the deep test shortly.

Claiborne Parish Wildcat

A third deep wildcat is scheduled for Claiborne Parish. The V. A. Hardin, 1 Valentine, located in 31-20-6w, about 9 miles southwest of Lisbon, 6 miles west of Sugar Creek, and 8 miles southeast of Homer, has spudded. The prospect consists of a structure worked up by subsurface information on the chalk, and geophysical shooting. It lies in the same trend as the Sugar Creek and Homer structures, but differs from many of the deep folds, such as are evidenced by Homer and Pine Island to the northwest, in that the closure on the fold does not appear to be as pronounced in the deeper formations. Deep tests which have drilled the lower Marine formation in areas of pronounced uplift in that formation have found sands of that depth either tight or missing. The Cotton Valley shows less uplift in that formation than some other structures drilled and found dry, and the example of the prolific production in Cotton Valley Bodcaw sands serves to indicate that the Hardin test may prove successful. That the wildcat is well regarded is evidenced by support of several major oil companies interested in North Louisiana.

The fifth test beginning in Claiborne Parish is Haynes B. Owenby, 2 Ozley fee, located in the Sugar Creek field.

Olla Field

In La Salle Parish Olla developments are of continued interest. The wild gasser, Placid, 19 Louisiana Central, which blew out in a deep Wilcox sand and was temporarily controlled by a blowout preventer, has been junked and abandoned, and the operator is skidding over 25 ft. to drill a relief well. The gasser is located in the 2½-mile south-extension area to Olla proper. Five miles south of the above south-extension pool, Peterson Petroleum Corp. has squeezed off perforation points at 3,160-63 ft., after the wildcat tested 13,980,000 cu. ft. of gas. Heavier connections will be moved into the location before further testing is undertaken, according to reports.

To the west in Sabine Parish the tight Shell, 1 Pickering Lumber Co., 30-4-12, is reported drilling below 7,100 ft. with contract depth at 8,500 ft. The test is located on a 75,000-acre block, and no information regarding its progress is being released.

NORTH LOUISIANA FIRST REPORTS

Bellevue—Bossier Parish

E. A. Jacobson, 1 Ark. F. O. Co. 13-19-11

Sligo—Bossier Parish

Triangle Drlg. Co., 3-A R. O. Roy 18-17-11

Caddo—Caddo Parish

W. A. Brown, 1 Pet. Dev. Co. 32-21-15
Claude Ferguson, 1 C. W. Lane 12-20-16
Four Star Oil Co., 3 Muslow 5-20-15
A. R. Hancock, 9 S. O. Co. fee 18-21-15
E. G. Hutchison, 1 Muslow Oil Co. 31-21-15
L. L. Sugar, 1 Sugar 32-21-15

Wildcat—Caddo Parish

R. W. Crosby, 1 W. E. Glassell, 990 ft. N, 330 ft. E, C 11-19-15

Olla—La Salle Parish

Ark. F. O. Co., 1-B Kees, 660 ft. N, 617 ft. E SW cor. SE 7-10-3e
Ark. F. O. Co., 1 W. H. Mills, 616 ft. N, 665 ft. W. C 13-10-2e
Placid Oil Co., 19 La. Central 26-10-2e
Placid, 25 La. Cent. 19-10-3e
Placid, 26 La. Cent. 25-10-2
Placid, 27 La. Cent. 25-10-2e
Placid, 28 La. Cent. 30-10-3
Placid, 29 La. Cent. 19-10-3

Wildcat—La Salle Parish

H. L. Hunt, 1-A Goodpine . . . . . C SW NW 10-7-3e

Monroe—Union Parish

Noe-Woods Corp., 1 D. Thompson 29-21-3
Noe-Woods Corp., 2 D. Thompson 29-21-3

NORTH LOUISIANA COMPLETIONS

Sligo—Bossier Parish

Triangle Drlg. Co., 7-C Skannal 13-17-12
Salt water, T.D. 3,111 ft.

Caddo—Caddo Parish

F. W. Bennett, 1 Askew 28-21-15
Pumping 50 bbl. oil, T.D. 1,550 ft.
Claude Ferguson, 1 Brooks 12-20-16
Location abandoned.
George Mack, 1 Stone 12-20-16
Pumping 95 bbl. oil, T.D. 1,520 ft.
Morris Co., 1 Caddo O. & M. Co. 12-20-16
Pumping 100 bbl. oil, T.D. 1,520 ft.
S. Relle, 1 R. Godfrey 1-20-16
Pumping 75 bbl. oil, T.D. 1,540 ft.
L. L. Sugar, 1-A Muslow 31-21-15
Salt water, T.D. 1,740 ft.
Texas Co., 13 Herndon 14-21-15
Pumping 250 bbl. oil, 40 bbl. salt water, T.D. 1,640 ft.

Olla—La Salle Parish

Arkansas Fuel Oil Co., 1-C Goodpine 24-10-2e
168 bbl., 15/64-in. choke, 10 per cent b.s. and w., tubing pressure 110 lb., casing pressure 335 lb., T.D. 2,243 ft., perf. 2,225-30 ft.
H. C. Cummings, 1 Urania 2-10-2
Salt water, T.D. 1,580 ft.
Placid Oil Co., 19 Louisiana Central 36-10n-2e
Junked, T.D. 3,312 ft., skidded over 35 ft.
Placid Oil Co., 23 Louisiana Central 30-10-2
216 bbl., ¼-in. choke, 4 per cent b.s. and w., tubing pressure 150 lb., casing pressure 325 lb., perf. 2,220-26 ft., T.D. 2,410 ft.

Cotton Valley—Webster Parish

Hunt Oil Co., 7 Bodcaw 15-21-10
No Holloway sand. Dry 5,967 ft.

NORTH LOUISIANA WILDCATS

Bienville Parish

Union Prod., 1 Havis unit, ...
150 ft. SE cor. NW NW 11-16-10
Ran Schlumberger, top Pettit 5,250 ft., set 7-in. casing 5,430 ft., T.D. 5,795 ft., perf. 5,260-5,312 ft., acidized and tested 45,000,000 cu. ft. gas, rock pressure 2,050 lb., W.O. gage.

Bossier Parish

H. M. Harrel et al, 1 Porter, 1,370 ft. W, 1,276 ft. S, NE cor. 20-17-11
Derrick.
L. K. McGuffin, 1 Tomlinson, 980 ft. S, 600 ft. E, C 16-18-11
T.D. 1,195 ft., top Nacatoch 1,167 ft., S.D. 1,220 ft.
R. L. Reese et al, 1 Bellevue Ld. Co., 170 ft. E, 365 ft. N 27-20-11
Cored sd. S.S.O. 2,888-98 ft., D.S.T. 2,902-13 ft., tested salt water, drilling 3,017 ft.

Caddo Parish

J. M. Conner, 1-A Williams, 334 ft. N, 986 ft. W SE cor. NE 3-15-15
Drilling hard red shale 6,411 ft.
Gehrig, 1 Colored Methodist Church, 637 ft. N, 1,826 ft. E ..... SW cor. 35-18-14
Rigging up.

Claiborne Parish

J. D. Caruthers, Tr., 1 Simmons unit C N½ SW 2-20-5w
Location.
V. A. Hardin, 1 Valentine, 593 ft. E, 660 ft. S NW cor. 31-20-6w
Spudded.
Ohio, 15 G. W. Taylor, Acct. 1, 100 ft. S and W ..... C SE 15-23-8
Top Bodcaw sand 7,654 ft., ran electrical survey, coring 8,489 ft.
Haynes B. Owenby, 2 L. E. Ozley fee, 490 ft. N, 660 ft. E, ... SW cor. NW 33-20-5
Drilling 1,216 ft.
Union Prod., 1-A Meadows et al ..... C NE 18-21-4
16-in. casing 326 ft., set 10¾-in. casing 3,591 ft., drilling anhydrite and shale 3,817 ft.

De Soto Parish

R. C. Swayles, 1 Jackson .....
330 ft. E, 200 ft. N, SW cor. NW SW 36-12-14
Derrick.
Union Prod., 1-B M. E. Garrett .....
1,320 ft. N, 1,980 ft. W, SE cor. 33-12-16
Rigging up.

Franklin Parish

J. B. White et al, 1 Dailey .....
1,170 ft. N, 2,490 ft. W, SE cor. 1-11-6
S.D., no show 3,016 ft.

Grant Parish

Peterson Pet. Corp., 1 Swope .....
182 ft. N, 85 ft. W, SE cor. NW SE 18-9-1e
Pumped salt water, W.O. 1,609 ft.

La Salle Parish

O. K. Allen, Jr., et al, 1 Breedlove, SW NE 32-11-3e
Top Wilcox 1,600 ft., T.D. 2,540 ft., S.D.
Arkansas Fuel Oil, 1-A Kees .....
609 ft. N, 667 ft. E, SW cor. NE SW 7-10-3e
Set 7-in. casing 2,252 ft., oil sands 2,202-04 ft. and 2,223-25 ft., perf. 2,225-30 ft., testing.
Arkansas Fuel Oil, 1 W. H. Mills .....
615 ft. N, 665 ft. W, C 13-10-2e
Drilling 216 ft.
Peterson Pet. Corp., 1 Tremont Lbr., NE SW 25-9-2e
T.D. 4,020 ft., set 7-in. casing 3,285 ft., sand 3,038-40 ft., S.O.; 3,040-60 ft., S.S.W.; 3,160-65 ft., S.O.; 3,165-95 ft., S.W.; perf. 3,160-63 ft., tested estimated 10,000,000 cu. ft. gas, rock pressure 1,325 lb., killed well and will install heavier connections, W.O. 4,020 ft.

Red River Parish

Thornton & La Croix, 1 Prudential Life Ins. Co. .....
2,160 ft. S, 440 ft. E, NW cor. 31-11-9
Drilling 1,135 ft.

Sabine Parish

Shell, 1 Pickering Lumber Co. ..... NE SW 30-4-12
Drilling 7,100 ft.

Union Parish

Tiki Exploration Co., 1 Jones 990 ft. NE cor. 30-21-3w
Drilling 2,463 ft.

Webster Parish

Hunt Oil, 1 Crawford et al SE cor. NW SE 30-21-10
Set 13¾-in. casing 615 ft., top D sand 8,559 ft., coring 8,560 ft.
Hunt Oil, 2 Scott .....
1,980 ft. N, 50 ft. E, SW cor. 20-21-9
Top Bodcaw 8,633 ft., cored 8,636-48 ft., received 11 ft. oil sand, top D sand 8,540 ft., salt water, T.D. 8,722 ft., set 7-in. casing 8,720 ft., Bodcaw sand (oil) 8,633-84 ft.
Magnolia, 1 Grant Wadley .....
400 ft. S, 940 ft. E, NW cor. 18-21-9
Drilling 1,483 ft.
Midstates, 1 Giddens unit .....
282 ft. N and W, SW NE 30-21-9
Drilling hard sandy shale 8,116 ft.

ARKANSAS

Arkansas activity remained very quiet. Fouke received another setback with failure of the Standard of Louisiana, 3 Sturgis. The edge test, located southeast of production, cored water sand at 3,782-92 ft., and was abandoned at 3,931 ft. About 1 mile east of the field, Gray and Wolfe are drilling below 1,650 ft. in No. 1 D. L. Friday.

Urbana, an old field in Union County, gained one of the best producers completed there in some time, as Marine Oil Co. brought in No. 13-A W. B. Thompson, flowing 222 bbl. daily through perforations at 3,006-12 ft.

Nearby, the Nick Springs field has another producer with Fohs Oil Co.'s completion of No. 2 C. T. Grace for 253 bbl. daily.

ARKANSAS FIRST REPORTS

Troy—Nevada County

Berry Asphalt Co., 4 W. R. Mitchell 4-14-20

Stephens—Nevada County

O. F. Whittaker, 2 W. M. Edwards 3-15-20

ARKANSAS COMPLETIONS

Wildcat—Faulkner County

Cato Oil Co., 1 R. R. Harrell .... SE SE SW 25-4n-12w
Dry. T.D. 2,051 ft.

Fouke—Miller County

Standard of La., 3 Sturgis ..... NW SE SE 1-17-27
Dry. T.D. 3,931 ft.

Nick Springs—Union County

Fohs Oil Co., 2 C. T. Grace ..... NW SW SE 31-17-14
253 bbl., ¼-in. choke, tubing pressure 300 lb., T.D. 3,975 ft.

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Urbana—Union County

Marine Oil Co., 13-A W. B. Thompson SW SE 3-18-13 222 bbl., 12/64-in. choke, perf. 3,006-12 ft., T.D. 3,060 ft.

ARKANSAS WILDCATS

Clark County

J. H. Coker and J. P. Grieves, 1 McClellan . . . . . NW NW SE 11-20-21 S.D. 1,603 ft.

W. S. King, 1 N. Ross . . . . . 640 ft. S, 359 ft. W, NE cor. S½ SW 3-10-21 S.D. 2,416 ft.

W. P. Wilson, 1 Hamilton & Mathews . . . . . SW NW 32-10s-20w Fishing 1,622 ft.

Dallas County

H. H. McBride et al, 1 Southern Kraft Corp. . . . . SE SW 16-9-16 Set 12½-in. casing 73 ft., W.O.C. 100 ft.

Columbia County

Berkshire, 1 H. C. Couch, C N 30 ac., SE SE 22-17-20 S.D., water 5,782 ft.

G. S. Hammond et al, 1 S. T. Crone . . SE SW 9-16-22 Drilling 3,626 ft.

McAlester Fuel, 1 K. J. Sayers . . . . . NW NE 15-18-22 Set 9⅝-in. casing 4,136 ft., drilling red and green shale 5,682 ft.

Normandie-Goldston, 1 C. E. Crumpler . . . . . C S 30 acres, SE SE 18-17-19 Set 16-in. casing 120 ft., W.O.C.

Placid Oil, 2-B J. W. Booth . . . . . SW SW 20-17-19 Set 9⅝-in. casing 2,195 ft., drilling red and green shale 5,930 ft.

Lafayette County

Atlantic, 2 Bodcaw Lumber Co. . . . . SW SE 29-17-23 Tops: Midway 1,020 ft., Nacatoch 1,750 ft., Annona 2,495 ft., Blossom 2,635 ft., drilling red and green shale 5,922 ft.

J. & J. Oil, 1 J. E. Barnes . . . . . 345 ft. W, 615 ft. N, SE cor. 4-16-24 Cored 2,266-83 ft., sandy marl, W.O.

Lonoke County

Lunnon, Howell & Ford, 1 City of Cabot . . . . . NE cor. Lot 1, Block 6, 18-4n-9w Arranging to set casing to test 1,283 ft.

J. F. Russell, 1 J. T. Gunter . . . . . 440 ft. N, 577 ft. W, SE cor. 17-5n-10w Drilling 2,617 ft.

Miller County

Gray & Wolfe, 1 D. L. Friday . . . . . 330 ft. NW cor. E½ SW 6-17-26 Set 9⅝-in. casing 131 ft., drilling 1,649 ft.

Saline County

Tedford Drlg. Co. et al, 1 Cunningham . . . . . SW NE 31-3s-15w 10-in. casing 331 ft.

Tedford Drlg. Co., 1 Williams . . . . . 1,295 ft. SE of No. 1 Cunningham, 31-3s-15w Set 6-in. casing 294 ft., W.O.

Union County

Sam Sebersky, 1-B G. N. Jerry . . . . . SW SW 21-17-14 T.D. 2,916 ft., D.S.T. 2,898-2,916 ft., tested mud, no show oil, W.O. 2,940 ft.

Louisiana Gulf Coast

(Continued from Page 78)

Jefferson Parish

Barataria field: California, 1 Flemming plantation, perf. casing 8,198-8,203 ft., 315 bbl., 10/64-in. choke.

Rapides Parish

Cheneyville field: Richardson, 14 Well, perf. casing 5,687-5,712 ft., 341 bbl., ⅛-in. choke.

St. Martin Parish

Anse La Butte field: Glassell & Glassell, 3 M. P. Breaux, sand 4,386-4,422 ft., 259 bbl., 12/64-in. choke.

Stanolind, 1 Bergeron, perf. casing 4,734-54 ft., 298 bbl., 22 hours, ⅛-in. choke

St. Mary Parish

Charenton field: Pan American, 23 Robichaux, sand 1,119-29 ft., 40 bbl., gas lift.

Terrebonne Parish

Bay St. Elaine field: Jefferson Lake Sulphur, 1 Salt Dome Royalties. Dry 1,302 ft.

LOUISIANA GULF COAST WILDCATS

Acadia Parish

Humble, 1 Legar, South Crowley, 22-10s-1e. S.D. for storm 8,860 ft.

Calcasieu Parish

W. T. Burton et al, 1 Mayo Realty, South Lake Charles prospect, 8-11s-8w, coring shale 10,713 ft.

Hamman Exploration et al, 1 Sabine, Rice Choupique prospect, 3-11s-11w, coring 8,000 ft.

Cameron Parish

Superior, 3 State-Calcasieu Lake, 1-14s-9w, drilling sand 10,805 ft.

East Baton Rouge Parish

Golding and Farris Drilling, 1 Paulet, 57-7s-1w, drilling shale 7,126 ft.

Iberia Parish

Plymouth, 1 Le Blanc, 12-12s-10e, Bayou Pigeon field, T.D. 7,734 ft., reaming.

Iberville Parish

Falcon-Seaboard Drilling, 1 Folse, 10,502 ft., dry.

Superior, 3 Schwing Lumber & Shingle Co., 74-9s-10e, Bayou Blue field, T.D. 5,100 ft., coring 5,032 ft.

Jefferson Parish

Shell, 1 State-Bayou des Illettes, S.D. for storm 9,497 ft.

Texas, 1 State-Bayou Perot, 26-16s-22e, drilling shale 3,910 ft.

Jefferson Davis Parish

Union Sulphur, 1-A Calcasieu National Bank, 2-8s-4w, South China prospect, T.D. 9,529 ft., 5½-in. casing 9,487 ft.

La Fourche Parish

Gulf, 1 Allen Land, 5-20s-22e, south outpost, Golden Meadow field, drilling shale 1,537 ft.

Rapides Parish

Rantex, 1 Clark, Lecompte prospect, 6-1n-1w, drilling shale 4,025 ft.

St. Charles Parish

Texas, 1 State-Lake Salvador, drilling shale 8,025 ft.

St. James Parish

Acadian Prod., 1 Celestine, 18-11s-4e, T.D. 2,415 ft., dry.

St. Martin Parish

Texas, 14 St. Martin Land, 21-8s-7e, Plumb Bob field, drilling shale in sidetracked hole 7,963 ft.

Glassell, 1 Tortoris, 122-9s-5e, southwest flank Anse La Butte dome, 7-in. casing, 9,368 ft., drilling deeper.

Shell, 2 Iberville Land Co., 87-7s-8e, Happytown field, drilling 2,014 ft.

Shell, 5 Jeanerette, 14-14s-12e, West Lake Verret field, drilling shale 8,530 ft.

St. Mary Parish

Sun, 1 Bell Isle Corp., 6-18s-11e, T.D. 11,117 ft., drill pipe stuck at 10,948 ft., fishing.

Terrebonne Parish

Stanolind, 1 State Bay Junop, 35-21s-14e, drilling shale 10,538 ft.

Vermilion Parish

Humble, 1 School Board, 16-13s-4e, ½ mile west of discovery well, Erath field, S.D. for storm at 9,339 ft.

North Texas Fields

(Continued from Page 87)

Navarro County

W. E. McKinney, 1 James, R. D. Newman Sur., 1½ mi. E. Bazzette field. First report.

A. J. Willis, 1 Cheney, W. Reed Sur., 12 mi. SE Corsicana. S.D. 802 ft.

Rusk County

J. S. Harrold, 1 M. J. Armstrong, M. D. Carmel Sur., 3 mi. SE Henderson. Top Massive anhy. 6,125 ft.; top Pettit 7,155 ft.; top Travis Peak 7,366 ft.; drlg. 7,399 ft.

Upshur County

H. C. McGahey, 1 Ludie Turner, SE cor. 200-ac. tr. in A. Butler Sur. W.O.C. 40 ft.

Wood County

Plains Prod., 1 S. I. Smith, S. Calderon Sur., 5 mi. NW Quitman. Drlg. 2,083 ft.

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TULSA, OKLAHOMA, U. S. A.

Newhall-Saugus Wildcat Possible Pool Opener

By L. P. STOCKMAN

LOS ANGELES, Calif., Aug. 12.—A full year has now elapsed since discovery of the last California oil field and as a consequence crude-oil reserves have been reduced about 130,000,000 bbl. which represents California's crude-oil production for the first 7 months of the current year. In order to maintain reserves it is necessary for prospectors to discover approximately 200,000,000 bbl. of new production yearly. The last discovery was in August 1939 when Western Gulf Oil Co. found the Paloma field in Kern County. Previously on June 11, Tide Water Associated Oil Co., developing some acreage held under lease by Continental Oil Co., discovered the Strand field when well No. 35-E Kern County Land was completed in the Stevens sand flowing 1,306 bbl. of clean 34.3-gravity oil per day along with 978,000 cu. ft. of gas from 8,364 ft. The Strand field has failed to come up to expectations as far as the Stevens sand is concerned and Tide Water Associated's present drilling well, No. 25-7-E Kern County Land in 7-30-26, will be carried down for a test of the Vedder zone. To date, Shell Oil Co., Inc., appears to have been the principal gainer as a result of the Strand field discovery. Right now Strand appears to be a field of secondary importance from a production standpoint but if Tide Water Associated Oil Co. succeeds in developing Vedder zone or Rio Bravo zone production it should become a district of prime importance because of the prolific tendencies of the Vedder and Rio Bravo sands. The Arvin field, discovered February 24, 1939, by Standard Oil Co. and Superior Oil Co., is still a field of secondary importance and may remain in that class. The best discovery in 1939 was the Northeast Coalinga field which was proved up by Amerada Petroleum Co. on April 24 when No. 7-17 S.P.L. in 17-19-16 was brought in flowing 4,230 bbl. of clean 32.4-gravity oil and 14,200,000 cu. ft. of gas daily from the equivalent of the Gatchell zone with bottom of the hole at 8,237 ft. The largest appreciation of California crude-oil reserves in 1939 resulted from extension work and deeper drilling in fields discovered previous to 1939.

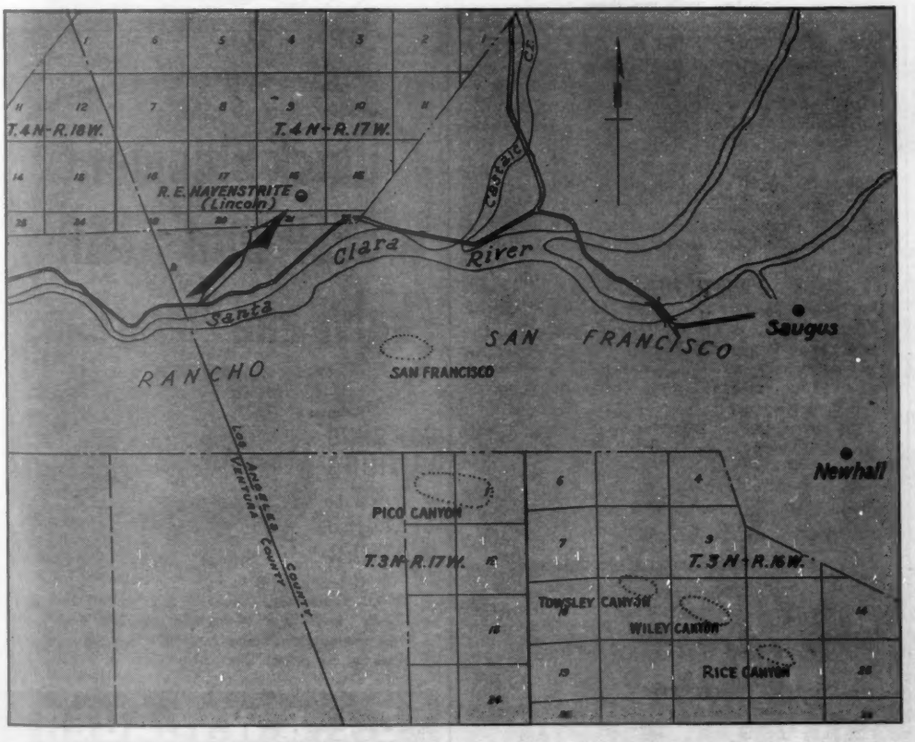
TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS (JAN. 1-AUG. 4)

	Los Angeles		San Francisco		Total	
Intercoastal-domestic—	1940	1939	1940	1939	1940	1939
Crude oil	307,122	575,595	.....	.....	307,122	575,595
Fuel oil	264,124	1,314,500	67,840	124,055	331,964	1,438,555
Diesel and gas oil	.....	163,501	281,260	69,550	281,260	233,051
Gasoline	1,835,969	2,150,090	.....	.....	1,835,969	2,150,090
Kerosene	.....	194,850	.....	.....	.....	194,850
Asphalt	.....	.....	379,114	353,166	379,114	353,166
Lubricants	.....	.....	16,568	19,534	16,568	19,534
*Total	2,407,215	4,398,536	365,668	213,139	2,772,883	4,611,675
Daily average	11,093	20,363	1,685	987	12,778	21,350
Foreign exports—						
Crude oil	8,348,150	9,575,861	2,642,397	3,220,107	10,990,547	12,795,968
Fuel oil	5,052,416	5,285,702	1,407,599	1,788,987	6,460,015	7,074,689
Diesel and gas oil	3,804,307	4,229,182	1,860,074	1,775,449	5,664,381	6,004,631
Gasoline	2,776,552	4,639,435	1,659,812	2,060,076	4,436,364	6,699,511
Kerosene	645,071	1,231,730	396,540	384,804	1,041,611	1,616,534
Asphalt	.....	.....	.....	6,919	.....	6,919
Lubricants	107,466	86,172	287,117	404,944	394,583	491,116
Other finished oil	.....	.....	738	352	738	352
*Total	20,733,962	25,048,082	8,254,277	9,634,719	28,988,239	34,682,901
Daily average	95,548	115,963	38,038	44,605	133,586	160,568
Coastwise-domestic—						
Crude oil	5,162,623	7,839,129	.....	.....	5,162,623	7,839,129
Fuel oil	8,353,999	5,661,726	3,160,539	3,827,301	11,514,538	9,489,027
Diesel and gas oil	1,639,847	1,403,280	665,274	695,540	2,305,121	2,098,820
Gasoline	10,150,918	9,392,989	4,066,491	4,647,987	14,217,409	14,040,956
Kerosene	338,017	253,490	330,924	487,393	668,941	740,883
Total	25,645,904	24,550,614	8,223,228	9,658,201	33,878,632	34,208,815
Daily average	118,181	113,660	37,895	44,719	156,122	158,379
Grand total	48,786,581	53,997,232	16,853,173	19,506,059	65,639,754	75,503,291
Daily average	224,823	249,987	77,664	90,306	302,487	340,293

*Exclusive of asphalt.

Newhall-Saugus Wildcat

The unsuccessful attempt of prospectors to discover new fields during the past year may be brought to a close in the near future by discovery of a new productive field in the Newhall-Saugus district of Los Angeles Basin. It must be remembered, however, that no new field is ever classed as such until the oil is actually running into tanks. The wildcat that has focused attention on the Newhall district is Russ Havenstrite, 1 Lincoln in 16-4-17 which has been coring thin stringers of oil sand for the past 150 ft. The expectation of securing production is not based on these showings, which total about 20 ft. in all of oil sand in the shale, but rather in a main body of oil sand expected to be found below this interval. The log of this wildcat appears to correlate very closely with wells drilled by Barnsdall Oil Co. in the San Francisco field which it discovered in May 1937 and in which it has since completed 11 producing wells. This well is at present drilling ahead at 6,245 ft. and should pick up the pay within a very short time if it is to result in commercial production. Geological work on the well is being done by Richard Sherman who selected the anticlinal structure as having particular merit. Mr. Sherman was formerly chief geologist of Barnsdall Oil Co. for several years and occupied that position when Barnsdall discovered the San Francisco field. To sum up this work one can say that Havenstrite's Newhall wildcat shows unusual promise from a correlation standpoint but that it remains to be seen whether the well will actually show commercial production.



R. E. Havenstrite has cored some promising oil sand in No. 1 Lincoln, a wildcat located in the Newhall-Saugus area north of the San Francisco field discovered by Barnsdall Oil Co. in 1937

Crude-Oil Production

Crude-oil production for the first 10 days of August has been running somewhat lower than the output during the same time in July but this really does not mean much as the largest change usually comes around the middle of the month after the Lakeview section of the Midway-Sunset field has been shut in and other operators have made their allowable for the month and then suspend production. Many operators have adopted the policy of producing their total monthly allotment early in the month and then shut down during the latter part of each period. Current daily production of leading California fields for the past week follows:

	Barrels
Wilmington	83,750
Midway-Sunset	60,300
Kettleman North Dome	44,825
Long Beach	43,570
Ventura Avenue	35,100
Coalinga	28,500
Santa Fe Springs	27,000
Huntington Beach	25,550
Montebello	18,600
Santa Maria Valley	16,750

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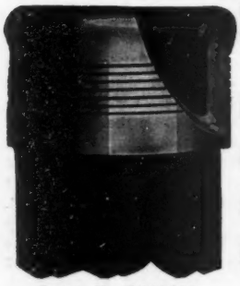

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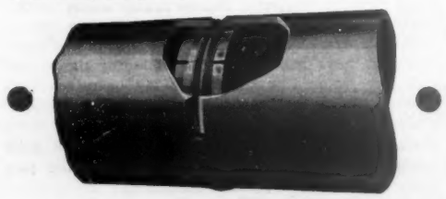

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Rio Bravo and Vedder zones missing, No. 1 Riggs of Superior Oil Co., an outpost in the northwest end of the Rio Bravo field of Kern County, appears headed for ultimate abandonment. Because of its position and effect on other properties located in the general area, Superior will obviously continue drilling in order to make a deep conclusive test. A lot depends upon what this well shows because if it is ultimately abandoned Superior and other operators will immediately quit claim leases to the west and north. From a geological standpoint this well should have found the Rio Bravo and Vedder zones in normal position but the seismograph surveys indicated several months ago that No. 1 Riggs would be structurally low. No indication of an intervening fault has been found and it is questionably whether there is one. The seismograph showed the nose of the structure plunged off at a rapid rate and based on work to date this is just what has happened. Most of the large properties in the Rio Bravo field have been found highly productive whereas the small 20 and 40- acre parcels on the northwest end of the structure and west of No. 1 Riggs will be outside of the productive limits. Operators in general are happy over this development because many of them were afraid of possible results from drilling operations. In the meantime, Superior Oil Co. is doing validation work on the Bohna property in 20-38-25 and the Devine lease in 21-28-25.

Wildcat Wells

Texas Co. has started derrick foundation for No. 1 Everding which will be drilled immediately in the NE NE SW 24-17-15 in the Cantua district of Fresno townsite. The location is about 2,500 ft. west and south of No. 1 Southern Pacific which the company drilled in 23-17-15 to 10,116 ft. and then plugged back to 9,356 ft. The latter well is good for about 10 bbl. of crude oil cutting 90 per cent and has been shut in. The showing of No. 1 Southern Pacific is too good to permit abandonment of the area and not good enough to justify the expectation of finding large production at this point. It is believed that commercial production may be secured in 24-17-15. There have been several wells drilled in this section of the state but in very case to date prospectors have been unable to secure production. Practically all wells show some favorable indications and for this reason operators are reluctant to discontinue operations. Western Gulf Oil Co. drilled four wildcats in the Cantua district and found the same promising indications as Texas Co. found in No. 1 Southern Pacific.

Northwest of operations of Texas Co., A. T. Jergins Trust has resumed work in No. 1 Cheney ranch in 29-14-13 and will again attempt to develop commercial production. These two wells are about 18 miles apart and both have shown production possibilities. No. 1 Cheney was originally drilled to 9,225 ft. and logged some favorable oil showings during the course of work. The hole was later plugged back and then redrilled to 7,350 ft. and on a first test failed to show anything more than some muddy water and a little gas. The small amount of oil produced by the well was the result of circulating oil used to wash out the perforations. No. 1 Cheney during drilling operations looked very promising and for this reason it is not likely that Jergins Trust will pull out and quit claim acreage taken in addition to that purchased in fee.

Delano Gas Field

In Tulare County, Tide Water Associated Oil Co. has reached a depth of 11,460 ft. in No. 1 Daniel, a wildcat located near the Delano gas field, and the hard sandy shale formation is either in the transition zone or in the top of the Eocene. This indicates that No. 1 Daniel will be an early abandonment unless it hits the pay within the next few hundred feet of hole. This well showed a good gas volume and pressure higher up in the hole and thus the company may therefore finish it as a commercial gas well. This gas zone was blanked off with 13⅜-in. casing cemented at 3,235 ft.

SAN JOAQUIN VALLEY COMPLETIONS

Cole's Levee Field

Ohio, 9-F (47-3) Kern County Land.....3-31s-25e
Flow 502 bbl., 35.4 gravity, 2,520,000 cu. ft. gas. 15/64-in. bean. Pressures 1,850/1,800 lb. T.D. 9,700 ft. Producing from Stevens oil sand. Top oil sand 9,057 ft. Located in Kern County.

Greeley Field

Standard, 12-0 Kern County Land.....7-29s-26e
Flow 3,075 bbl., 34.4 gravity, 1,500,000 cu. ft. gas. T.D. 11,510 ft.; 38/64-in. bean. Pressures 1,615/1,600 lb. Top productive Vedder sand 11,260 ft. Located in Kern County.
Superior, 1 Moore.....12-29s-25e

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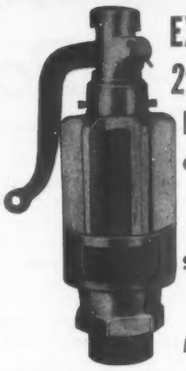

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Kettleman North Dome Field

Kenda, 4-20-J 20-21s-17e
T.D. 8,850 ft., plugged 8,693 ft., 8,450 ft., 8,380 ft. Originally completed April 7, 1934, and showed potential 7,344 bbl. oil, 788 bbl. water, 7,584,000 cu. ft. gas, 35.6 gravity, very clean. Two 160/64-in. tubing beans and two 160/64-in. casing beans. Completed in Temblor. Went to water in June 1940 and abandoned in August 1940. Well is located outside original red line and inside blue line far out on north flank in extreme western end of Kettleman Hills structure. Situated in Fresno County.

Northeast Coalinga Field

Union, 55-18 Cook 81-19s-16e
Flow 385 bbl., 28.1 gravity, 190,000 cu. ft. gas. T.D. 8,282 ft., plugged back to 8,231 ft. Flow through 2½-in. tubing and casing beans intermittently for various periods at 380 bbl. oil and 3,971,000 cu. ft. gas daily rate. 9/64-in. bean on tubing and 16/64-in. bean on casing. Pressures 1,000/2,390 lb. Two-hour test through tubing only was daily rate 385 bbl. crude oil and 190,000 cu. ft. gas, 9/64-in. tubing bean. Pressures 1,100/2,850 lb. Top Kreyenhagen 6,544 ft., top Glauconitic 7,631 ft., top productive Gatchell sand 7,934 ft. Elevation 602 ft. Located in Fresno County.

Wasco Field

Standard, 5 Mushrush 7-27s-25e
Flow 2,980 bbl., 33.1 gravity, 1,750,000 cu. ft. gas. T.D. 13,130 ft. Completed in first Wasco zone of Miocene age.

Southeast Coalinga Field

Standard, 1-19-F fee 19-20s-16e
Flow 3,816 bbl. rate, 29.5 gravity, 2,384,000 cu. ft. gas. T.D. 8,025 ft., plugged 7,900 ft. Top Kreyenhagen 6,212 ft., top Glauconitic 7,472 ft., top Gatchell zone 7,531 ft. Formation test lower part of hole at 7,943-8,021 ft. flowed 180 bbl. salt water testing 110 grains salt per gallon. This portion of hole cemented off. Located in Fresno County.

Standard, 51-19-F fee 19-20s-16e
Flow 2,568 bbl. rate, 29.9 gravity, 1 per cent cut, 3,912,000 cu. ft. gas, 40/64-in. bean. Pressures 750/1,150 lb. T.D. 7,867 ft. Top Kreyenhagen 6,245 ft., top grit zone 7,400 ft., top productive Gatchell sand 7,485 ft. Located in Fresno County.

Ten Section Field

Shell, 6-28-A Kern County Land 28-30s-26e
Flow open line 1,223 bbl., 33.1 gravity, 0.3 per cent cut, 845,000 cu. ft. gas. Pressures 100/625 lb. T.D. 8,220 ft. Completed in Stevens oil sand. Elevation 335 ft. Located along northeast side of field in Kern County.

Tupman Field

Richfield, 52-33-A Kern County Land 33-30s-25e
Flow 1,720 bbl., 30.8 gravity, 7 per cent cut, 2,440,000 cu. ft. gas. Two 1¼-in. beans. Pressures 400/550 lb. T.D. 9,275 ft. Completed in equivalent of Stevens zone. Elevation 314 ft. Bell & Loffland drilling contractor. Located in Kern County.

SAN JOAQUIN VALLEY WILDCATS

Cantua District

Texas, 1 Everding 24-17s-15e
New rig NE NE SW 24-17-15. Elevation 342 ft. This is second wildcat to be drilled by Texas Co. in Cantua area. Production formation is of Eocene age. Located in Fresno County.

Kreyenhagen District

Continental, 1 Kreyenhagen 4-22s-16e
Drilling ahead at 7,750 ft. in gray sand and brown shale of lower Temblor. Another 2,500 ft. should determine status of this wildcat. Objective is Kreyenhagen shale. Located in Fresno County.

Panoche Creek

Jergins Trust, 1 Cheney 29-14s-13e
T.D. 9,225 ft., plugged and redrilled to 7,350 ft. After standing suspended for several weeks, attempt is being made to clean out hole and try for production. This wildcat showed production possibilities while drilling but it has so far failed to respond. Located in Fresno County.

Delano Area

Tide Water, 35-22 Daniel 22-24s-23e
Drilling ahead in hard sandy shale at 11,610 ft. in barren gray sand of Eocene age. Located in Tulare County. Does not look encouraging.

Rio Bravo Outposts

Suuperior, 1 Riggs 21-28s-25e
Drilling ahead at 12,140 ft. This well will determine limits of production and consequently drilling in extreme northwestern limits of Rio Bravo field. Due to its extreme depth, very little hope is held out for production. Top of Olcese found at about 11,500 ft. Well is running more than 750 ft. lower structurally than wells on top of structure. Located in Kern County.

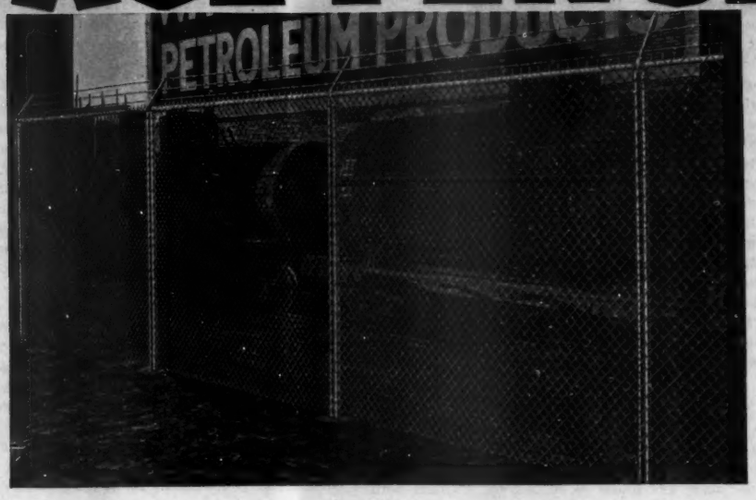
Superior, 1 Bohna 20-28s-25e

Superior, 1 Devine 21-28s-25e
Status of these two outposts will be determined by work on No. 1 Riggs. Superior has been doing validation work to maintain leases pending developments.

LOS ANGELES BASIN

Five additional locations were staked in the Athens section of the Rosecrans field of Los Angeles County this week and several more tentative locations are under consideration. Failure of the Thorley well to show large flowing production has cooled the enthusiasm of some operators and hence there is no general rush into the district. This area is zoned against drilling and for this reason it may be another 2 or 3 weeks before actual drilling gets under way. The Thorley acreage has already been rezoned for drilling and work on this property can therefore proceed without further delay. The rezoned area has been

PAGE FENCE



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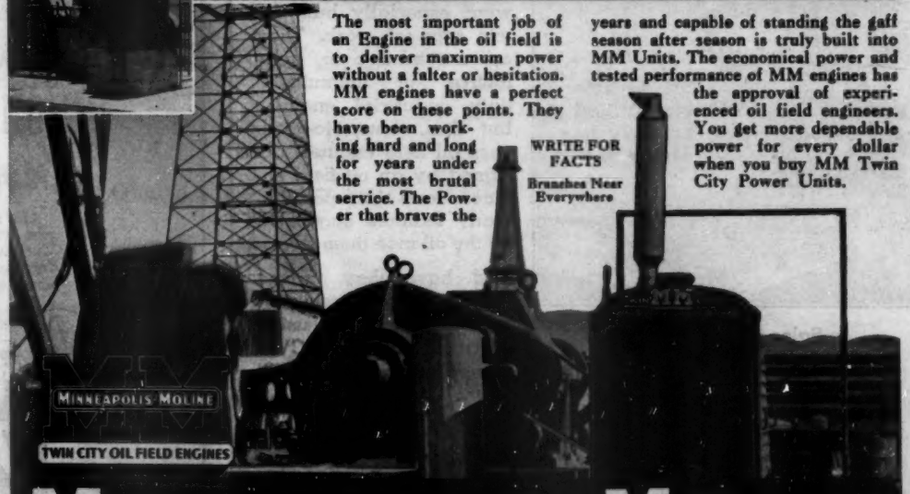

MINNEAPOLIS - MOLINE
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limited to not more than one well to each acre and while this spacing is not approved by good oil-field practice it is better than allowing one well to each lot or two. Even with the one-well-per-acre limitation operators will be obliged to exercise extreme care in drilling and water disposal after completion. The zoning as it stands at present limits the size and height of tanks and makes it obligatory to either use steel containers for mud sump storage or remove cuttings immediately after completion of work. These provisions are in force in order to protect the many houses in the district particularly with respect to the prohibition of blowing gas to the air. Southwest of the Thorley well, Inca Oil Corp. has reached a depth of 8,200 ft. in a sandy shale and oil sand. A faulted condition was logged in this wildcat at 6,830-6,900 ft. and this may prove of interest after drilling operations get well under way. Up to the present the new locations have been located in close proximity to the deep-zone discovery well and thus this work will not afford much indication of the extent of the accumulation. Most all locations staked have been south, east and west and none to the north which many operators believe will prove more productive.

Dominguez Field Outpost

The Wood-Mellon wildcat located about 1 mile west of the west end of the Dominguez field took on a doubtful aspect late this week when the seventh Callender zone was found to be barren. To date both the sixth and seventh Callender zones have been barren although a few small showings were cored in the sixth. The company is again going ahead and has started coring for the eighth Callender zone which should be picked up within the next 200 ft. At the extreme western end of the Dominguez field and one location removed from production, R. E. Havenstrite has completed derrick for No. 4 Larronde. Between the Larronde property and the Wood-Mellon wildcat and about 2,500 ft. south of Gus Pongratz' wildcat which was abandoned as a duster last year. Angle & Aregood have made location for a well to be drilled near Main street and Victoria. Electric log readings indicate that No. 1 Sentous of R. R. Bush Oil Co., an outpost in the Inglewood field of Los Angeles Basin, should reach the equivalent of the O'Dea zone within the next 100 ft. This well is drilling ahead in sandy shale with streaks of oil sand at 8,050 ft. Several additional zones are believed to exist in the Inglewood field but this is conjectural in as much as operators have not done any drilling for several years and will probably not do any in the near future unless forced to do so by reason of wells completed around the edge of the field.

Aliso Canyon

Tide Water Associated Oil Co. completed another good producing well in the Aliso Canyon field this week when No. 14 Porter in 27-3-16 was brought in flowing 1,608 bbl. of 23.3-gravity oil cutting 5 per cent along with 440,000 cu. ft. of gas per day from a depth of 5,290 ft. This new well which was brought in flowing through a 1-in. bean was finished with 547 ft. of 6⅝-in. liner landed at 5,286 ft. and carrying 522 ft. of 80-mesh perforations. Tide Water Associated Oil Co. discovered the Aliso Canyon field October 25, 1938, and although several wells were drilled in close proximity to the discovery well only Tide Water Associated Oil Co. has developed production to date. Union and Standard Oil Co. each drilled a well north of the discovery well but both were abandoned after failing to find the pay. This field is badly faulted and while the location of these two wells was good with respect to structure faulting prevented the securing of commercial production. Later Tide Water Associated Oil Co. concluded a deal with Union whereby the former acquired the latter's Orcutt lease on an operating basis in which each participates.

Montebello

The Montebello extension located in the extreme western end of the original field has consistently defied engineering expectations. Earlier this year bottom-hole pressure was dropping 10 lb. per day and obviously in the face of this it was believed that field production would drop off very rapidly throughout the field. Several months later a check shows that bottom-hole pressure has been almost constant and in some parts of the field pressure has declined for several weeks past at the rate of 2 lb. per day. The almost static condition in pressure is especially true of the 25 wells that have been completed in the 8-3 zone which in most cases are also producing from the two upper sections of the La Merced zone.

LOS ANGELES BASIN COMPLETIONS

Huntington Beach Field

Termo Corp., 4-409 State 10-6s-11w
Pump 340 bbl., 25.5 gravity. T.D. 5,140 ft. Hole bottomed beneath Pacific Ocean by directional drilling from upland location. Located in Orange County.

Long Beach Field

Apex, 16 Morris 19-4s-12w
Pump 145 bbl., 24.1 gravity, 5 per cent cut. T.D. 3,147 ft. Located in Los Angeles County.

Oceanic, 4 Signal 29-4s-12w
Pump 65 bbl., 2.5 per cent cut. T.D. 5,117 ft., plugged 4,852 ft. Originally completed in 1935 at 4,381 ft. Located in Los Angeles County.

Montebello Field

Columbia, 19 Crawford 2-2s-12w
Flow 135 bbl., 35.6 gravity, 2.9 per cent cut. T.D. 7,724 ft. Originally completed at 7,656 ft. Elevation 256 ft. Located in Los Angeles County.

Kern, 31 Monterey 2-2s-12w
Flow 45 bbl., 37.4 gravity, 5 per cent cut, 500,000 cu. ft. gas. Flow open line. Originally completed in 1939 at 7,740 ft. Now producing from all three intervals of La Merced zone. T.D. 7,865 ft. Elevation 342 ft. Located in Los Angeles County.

Pongratz, 1 Newmark 2-2s-12w
Flow 395 bbl., 36 gravity, 600,000 cu. ft. gas. Flow through 1-in. bean. Pressures 400/625 lb. Deepened from original completion depth of 7,641 ft. in 1939 to present depth 7,790 ft. Elevation 282 ft. Located in Los Angeles County.

Newhall Field

Barnsdall, 11 R.S.F. 26-4n-17w
Flow 1,100 bbl., 33.1 gravity. Producing from Miocene at 7,392 ft. through 30/64-in. bean. Pressures 200/750 lb. Elevation 1,175 ft. Located in Los Angeles County.

Wilmington Field

Gremac, 7 Harbor 35-4s-13w
Flow 1,220 bbl., 15.6 gravity, 5 per cent cut. T.D. 3,642 ft. Producing from Ranger zone with perforations at intervals between 2,805 ft. and 3,642 ft. Located in Los Angeles County.

Union Pacific R.R., 149 Offset 3-5s-13w
Flow 431 bbl., 20.9 gravity. T.D. 3,529 ft. Producing from Ranger zone with perforations between 2,996 ft. and 3,529 ft. Located in Los Angeles County.

Vulcan, 3-W Harbor 33-4s-13w
Flow 365 bbl., 14.1 gravity, 4 per cent cut. Completed in Ranger zone at 3,552 ft. Perforations between 2,590 ft. and 3,551 ft. Located in Los Angeles County.

(Continued on Page 100)

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Griffin Field Continues to Be Indiana's Busiest District

By STAFF CORRESPONDENT

EVANSVILLE, Ind., Aug. 12.—There were 10 completions reported in Indiana during the past week of which 7 were oil wells, with a total initial production of 939 bbl. One small gas well was completed in Sullivan County and there were two dry holes.

Prospecting along the west side of the Cincinnati arch continues with a gas well and an oil well near completion in Randolph County.

INDIANA COMPLETIONS

Gibson County

Hall Edwards, 4 Maier.....NE NE SE 14-3s-14w Pumped 200 bbl., Cypress 2,487-92 ft., T.D. 2,500 ft.
J. Bander et al, 36 Cooper.....SW NE NE 13-3s-14w Pumped 233 bbl., Cypress 2,482-2,507 ft.
Lewis Prod., 10 Cooper-D.....SE SE NW 13-3s-14w Pumped 160 bbl., Cypress 2,481-89 ft.
K. T. & F., 1 Shoultz.....NE NE SE 18-1s-14w Pumped 5 bbl., old well drilled deeper from 1,262 ft. to 1,318 ft., Hardinsburg pay 1,312-17 ft.

Posey County

Max Cohen et al, 1 Williams SW NW NW 4-4s-13w Dry. Glen Dean 2,225 ft., T.D. 2,870 ft.
Roberts Bros., 6 Keck.....SW NE NW 34-3s-14w Pumped 150 bbl., Aux Vases 2,790-2,805 ft., shot, T.D. 2,809 ft.
Continental, 1 Kleiderer.....NE NE NE 33-2s-14w Pumped 54 bbl., 12 hours, Aux Vases 2,775 ft., shot, T.D. 2,809 ft.
H. Sandler, 3 Keck.....NE SW NW 34-3s-14w Flowed 135 bbl., Aux Vases 2,785 ft., shot, T.D. 2,812 ft.

Sullivan County

W. K. Jones, 1 Huff.....NW SW 35-8n-10w 35,000 cu. ft. gas 609-15 ft., T.D. 831 ft., P.B. 639 ft.

Vanderburg County

J. L. Drake, 10 Effinger.....SW SW NW 33-5s-10w Dry. Pumped 2 bbl. oil and 35 bbl. water, sand 870 ft., T.D. 940 ft.

INDIANA DRILLING REPORT

Daviess County

Newton Pipe Line, 1 Conelly.....SE SE NE 33-2n-6w Old well drilling deeper from 1,575 ft., Devonian 2,176 ft., T.D. 2,370 ft., P.B. 2,210 ft., to acidize.

Gibson County

L. B. Jackson et al, 1 Sturgeon SE NW SE 10-2s-9w Elev. 426 ft., Glen Dean 1,204 ft., Cypress 1,380-90 ft., Ste. Genevieve 1,570 ft., set 6-in. at 1,571 ft.
L. B. Jackson et al, 1 Keeton..NW NE NE 15-2s-9w Glen Dean 1,200 ft., McClosky 1,639-45 ft., pumped 40 bbl., to acidize.
Continental, 9 Bozeman.....NW NE NE 23-3s-14w Elev. 381 ft., Ste. Genevieve 2,790 ft., McClosky 2,850 ft., hole full of oil after 200 gal. of acid, to reacidize, T.D. 2,863 ft.
Lewis Prod., 2 Dunn.....NW NE SW 18-3s-13w Saturated sand 1,320-30 ft., Menard 2,064-66 ft., saturated, Waltersburg 2,069-86 ft., set 7-in. 2,068 ft., testing.
J. Bander et al, 34 Cooper...SW SW NE 13-3s-14w Cypress 2,484-98 ft., saturated, McClosky 2,856-70 ft. and 2,873-76 ft., saturated, set 5-in. 2,850 ft., T.D. 2,882 ft., testing.
Lewis Prod., 11 Cooper.....SW SE NW 13-3s-14w Cypress 2,489-2,522 ft., saturated, testing.

Hendricks County

Griffin Oil, 1 Hobbs.....SW NE SE 17-15n-2e Devonian 353 ft., drilling 360 ft.

Jay County

Petroleum Dev., 1 J. Brinegar NE NE NW 29-24n-13w St. Peter 1,450 ft., S.D. 3,205 ft.

Posey County

W. C. McBride, 1 Swonders..NW NW NE 4-4s-14w Cypress 2,540 ft., 7-in. 2,539 ft., swabbed 19 bbl., to shoot, T.D. 2,551 ft.
Nelson Dev., 1 Horstmann.....NE SE NE 7-6s-12w Mansfield 1,165-72 ft., saturated, Clore 1,640 ft., Palestine 1,780 ft., Menard 1,820 ft., drilling 1,954 ft.
Paul Rossi, 2 Egli.....SE SE NW 19-6s-12w Slight show in sand 1,153-61 ft., drilling 1,180 ft.

Randolph County

Mrs. J. Seip, 1 Clark.....NW NW SE 8-19n-13e Trenton 895 ft., 250,000 cu. ft. gas at 200 lb. pressure 1,024-51 ft., shut down 1,051 ft.
Mrs. J. Seip, 1 Clevinger.....NE NE NE 8-19n-13e Trenton 1,003 ft., est. 2½ bbl., 2,000 gal. acid 1,024-76 ft., testing.

Spencer County

B. Hoover, 1 Rothert.....SW NW NW 1-5s-6w Sand 724-803 ft., est. 15 bbl. at 730-52 ft., drilling 825 ft.

Vigo County

H. N. Oakley, 1 Simmerton SW NE SE 17-15n-2e New Albany 1,447 ft., Devonian 1,538 ft., water 1,558 ft., drilling 1,570 ft.

OHIO FIELDS

NEWARK, Ohio, Aug. 12.—Of the 23 completions reported in the Ohio fields, 10 were gas wells, 8 were dry holes and 5 were oil wells. Fair gas wells were completed in the Newark field.

In southwestern Ohio, United Central, 1 Frank Pond, Clinton Township, Union County, 1¼ miles north of Wilmington, recorded the Trenton at 1,155-1,648 ft., no showings, now drilling in a dark shaly dolomite at 1,698 ft.

Athens County

Bern Township: Jesse Williams et al, 1 C. E. Parson, Section 25, dry, T.D. 970 ft.
Dover Township: Ohio Fuel Gas, 185 Sunday Creek Coal Co., Section 26, dry, Berea, T.D. 1,155 ft.
Waterloo Township: H. C. Williams, 1 Aaron Young, Section 12, 2 bbl., shot, Berea 1,058-62 ft.

Fairfield County

Pleasant Township: City Gas Works, 5 John Mertz, Section 14, dry, Newburg 1,903-08 ft.

Knox County

Jefferson Township: H. E. Perkins, 1 fee, Section 9, 50,000 cu. ft. gas, Clinton 2,957-64 ft.
Pike Township, Ohio Fuel Gas, 1 Clarence Derr, Section 23, dry, Clinton 2,480-82 ft.

Holmes County

Hardy Township: Bell Bros., 1 M. M. Ralston, Section 16, small gas well, Berea 731-36 ft.

Licking County

Newark Township, Newark field: Dowler, 1 T. D. Paramore, west corporation line, 2,600,000 cu. ft. gas, Clinton 2,313-31 ft.
George Jacknette, 1 Newark Water Works, first quarter, 942,000 cu. ft. gas, Clinton 2,366-93 ft.
Dowler, 1 Henry Steinmeir, first quarter, 400,000 cu. ft. gas, Clinton 2,447-80 ft.
Perry Township: William Stricker et al, 12 G. E. Patton, Section 7, 4 bbl., shot, Berea 777-89 ft.

Monroe County

Franklin Township: Hines Bros., 1 F. Briggs, Section 32, dry, T.D. 1,300 ft.

Morgan County

Marion Township: Shaw et al, 1 Harvey Peck, Lot 31, dry, first Cow Run, T.D. 480 ft.
Windsor Township, Burt et al, 1 Charles Yarnell, 1 bbl., shot, first Cow Run 548-60 ft.

Muskingum County

Wayne Township: Franklin Drlg., 1 C. B. Saunders, Section 30, 900,000 cu. ft. of gas, shot, Medina sand missing, Clinton 4,028-65 ft., T.D. 4,192 ft.

Noble County

Beaver Township: Ohio Fuel Gas, 1 R. O. Law, Section 29, 100,000 cu. ft. gas, Berea 1,602-07 ft.
Barnesville Development, 1 R. W. Douglas, Section 11, 50,000 cu. ft. gas, Berea 1,551-59 ft.
Marion Township: All States, 2 Ward McVicker, Section 36, dry, Injun, T.D. 945 ft., P.B. stray sand 585 ft., saved as small gas well.
Jackson Township: Skinner, 3 F. C. Hughes, Section 9, dry, T.D. 1,008 ft.

Stark County

Bethlehem Township: East Ohio, 1 S. I. Albaugh, Section 29, dry, Clinton 4,337-68 ft., T.D. 4,474 ft.

Washington County

Liberty Township: Otto Heldman, 2 Mae Mossburg, Section 21, dry, Keener, T.D. 1,452 ft., P.B. 1,300 ft., saved as small Germantown sand gas well.
Fearing Township: E. W. Haas et al, 4 Charles Kuntz, Lot 100, 5 bbl., shot, 940-50 ft.

Van Wert County

Liberty Township: J. O. Yohn et al, 1 Robinson, 2 miles northwest of Ohio City, 3 bbl., Trenton 1,192-1,225 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., Aug. 10.—Five oil wells and eight dry holes were completed in western Kentucky last week. The best producer was the Stewart and Snyder well in the Handyville district of Daviess County which produced 15 bbl. per hour from Jett sand after a shot.

WESTERN KENTUCKY COMPLETIONS

Breckinridge County

Van Zant district: G. W. Kleiboker et al, 1 Wiley Beasley. Dry. Bethel, T.D. 533 ft.
Pleasant Grove Church district: C. D. Lambert, 1 George Blair. Dry. Cunningham, T.D. 480 ft.
Three and three-quarters miles east of Cloverport: C. V. Guthrie, 1 Vick Robertson. Dry. Cunningham, T.D. 750 ft.

Butler County

Silver City district: Wilson Brothers, 1 Mrs. B. Smith. Dry. Jones sand, T.D. 700 ft.

Daviess County

Handyville district: Stewart & Snyder, 4 Anna Ezell, pumping 15 bbl. per hour, Jett sand 1,257-89 ft., shot 140 qt., T.D. 1,290 ft.

Hancock County

Saunders School district: Walter Richards, 8 Elmer Boling, 10 bbl., Jett sand, T.D. 395 ft.
W. J. Flesher, 2 W. F. Burk, West tract. Estimated 30 bbl., Jett sand, 310-26 ft., T.D. 329 ft.

Henderson County

Hebbardsville district: O. J. O'Connell, 1 Cooksey Bennett, hole full of oil. When agitated flows approximately 12 bbl. per hour from Jett sand. Top of Jett 1,505 ft., top of Jett pay 1,506 ft., T.D. 1,508 ft.
Niagara district: Niagara O. & G., 9 J. E. Knight. Dry. Niagara sand.

McLean County

Barrett Hill district: Mike Callas, 3 L. C. Atherton, old well drilled deeper from 1,051 ft. to 1,230 ft., through McClosky 1,209-30 ft. Acidized 1,500 gal., now testing.

Ohio County

Buford district: A. Teller, trustee, 3 W. A. Bell, 10 bbl., Bethel sand, T.D. 1,088 ft.
Sunnydale district: J. W. Tuttle et al, 2 Lena Berry. Dry. Jett sand, T.D. 518 ft.
Pattyville district: Mote King, 1 W. P. Davison. Dry. Jett sand.
Friendship Church district: L. M. Steele, 3 G. M. Muffett. Dry. Barlow, T.D. 819 ft.

EASTERN KENTUCKY

ASHLAND, Ky., Aug. 10.—Two oil wells, eight gas wells, and one dry hole were completed in eastern Kentucky this week.

EASTERN KENTUCKY COMPLETIONS

Knott County

Inland Gas, 214, on Lindsay Amburgey tract, Mill Creek. 317,000 cu. ft. gas, slate 2,883 ft.
Inland Gas, 213, on W. L. Smith tract, Right Fork of Troublesome Creek. 601,000 cu. ft. gas, slate, 3,155 ft.

Wolfe County

J. I. Kellen, 3 D. H. Rose, Red River. Pumped 15 bbl., Clinton, 1,896 ft.

Martin County

J. T. Diederich, 7 A. S. Pauley, Crooked Creek. Flowed 20 bbl., Maxon, 1,598 ft.

Morgan County

Fitch & McGowan, 2 L. Holbrook, Williams Fork. Dry. T.D. 810 ft.
F. Fitch, 1 Smith heirs, Birch Fork. 750,000 cu. ft. gas, T.D. 2,200 ft.

Pike County

United Carbon, 829, on J. Ford heirs, Powell Branch. 462,000 cu. ft. gas, Maxon, 1,832 ft.

Floyd County

United Carbon, 1 E. Bull, Left Fork of Beaver Creek. Dry. Acidized in Big lime. T.D. 2,464 ft., in shale.
United Carbon, 828 on J. Hamilton No. 1 tract, Levisa Creek. 1,750,000 cu. ft. gas, shale, 3,478 ft.
United Carbon, 827 on Republic Steel tract, Greasy Creek. 539,000 cu. ft. gas, shale, 3,672 ft.
Columbian Fuel, 838 on Tierney tract, Stratton Fork. 292,000 cu. ft. gas, Maxon, 2,106 ft.

Illinois Fields

(Continued from Page 73)

Elev. 412 ft., Glen Dean 1,875 ft., St. Louis 2,687 ft., T.D. 3,180 ft.
Rowe et al, 1 Summers.....SW SW SW 18-8s-6e Kinkaid 1,640 ft., Degonia 1,950 ft., Menard 1,985 ft., Waltersburg 2,100 ft., Vienna 2,160 ft., Tar Springs 2,170 ft., drilling 2,260 ft.

Wabash County

W. E. Huff, 1 Milligan.....NW NW SE 3-1n-13w Waltersburg 2,014-24 ft., Tar Springs 2,070 ft., Golconda 2,288 ft., Cypress 2,398 ft., Paint Creek sand 2,498-2,523 ft., Benoist 2,574 ft., McClosky 2,714-20 ft., T.D. 2,724 ft.
F. Tatum et al, 1 Ewalt.....NE SW SW 34-1s-13w Aux Vases 2,549-64 ft., T.D. 2,569 ft., drill-stem test 2,540-60 ft., recovered 100 ft. of oil.

White County

Parker Drlg., 1 Phelps.....SE NW NW 14-6s-9e Waltersburg 2,268 ft., T.D. 2,287 ft., P.B. 2,283 ft., shot 10 qt., 2,273-80 ft., swabbed 3 bbl. per hour, 40 per cent water before plug back.
Eason, 1 Rebstock.....SE SE SW 11-6s-9e Waltersburg 2,261 ft., T.D. 2,271 ft., swabbed 59 bbl., 2,266-71 ft., testing.
Eason & Marshall, 1 Pearce....NE SE NW 2-7s-10e Base Penn. 1,715 ft., drilling 1,840 ft.
Cook, 1 Polland.....NE NE NE 13-6s-10e Waltersburg 2,565 ft., Cypress 2,990 ft., Paint Creek 3,090 ft., Benoist 3,245 ft., Aux Vases 3,290 ft., Ste. Genevieve 3,363 ft., Fredonia 3,412 ft., pay 3,415-21 ft., 4,000 gal. acid, testing.

ILLINOIS FIRST REPORTS

There were 67 wells started in Illinois during the past week. Of these, only 1 was in the Centralia field. Carter Oil Co. started 7 wells in the Louden field, and 4 locations were made in the Salem field. Most of the field locations were in the eastern area, with 7 in Wayne County, 10 in Wabash County and 9 in White County pools.

Recent developments in Montgomery and Bond counties have resulted in the starting of several wells, and this area has become one of the most closely watched parts of the basin.

Forest City Basin

(Continued from Page 75)

drilling below 1,060 ft. G. R. Gallemore, 1 Buckler, C SW NW 22-5s-14w, Randolph County, was reported

dry and to have pulled pipe, after having reputedly found Arbuckle lime at 700 ft. and drilling to 1,045 ft.

Busiest area in Missouri was in Caldwell County, where two shallow gas tests were spudded and other locations were being arranged. A. W. Hutchings of Nashville, Ill., spudded No. 1 Fowler, NE SE SW 36-55n-29w, and O. M. Evans, Tulsa, spudded No. 1 Arnote, SE NE 36-55n-29w. Evans already has drilled two shallow gas wells, one in Section 25 and one in Section 36. Gas is found at about 400 ft. Deeper tests are expected soon.

Missouri Valley Gas & Oil Co. has resumed operations in Platte County, where it drilled several tests and completed two fair sized gas wells, and was drilling ahead at No. 1 Lampe, SE NW 12-51n-34w.

In Jefferson County, Kansas, Dan McLaughlin, 1 Bower, SE NE 5-10-20, was showing for the third gasser in the McLouth pool. Pay sand was topped at 1,428 ft. and casing was cemented.

In Douglas County, Kansas, Kerlyn Oil Co. resumed work at No. 1 Hemphill, NE NW 23-12-20, and was drilling below 750 ft. S. W. Forrester et al, 1 Altenbernd, CSL NW 35-12-20, set 6-in. casing on top of Mississippi lime at 1,104 ft. and was drilling below 1,454 ft.

California Fields

(Continued from Page 98)

Seal Beach Field

Texas, 3 Alamitos.....3-5s-12w
Dry. T.D. 5,225 ft., plugged 5,115 ft. Located in Orange County.

Aliso Canyon

Tide Water Associated, 14 Porter.....27-3n-16w
Flow 1,608 bbl., 22.3 gravity, 5 per cent cut. T.D. 5,290 ft., 440,000 cu. ft. gas.

Yorba Linda (Richfield)

Silver Star, 1 Fricke.....21-3s-9w
Pump 125 bbl., 15.7 gravity, 3 per cent cut. T.D. 2,330 ft., plugged back to 2,130 ft. Tar sand at 1,812-60 ft. Top oil sand 1,975 ft. Perforated 2,050-60 ft. Reperforated 2,045-75 ft. Located in Orange County.

COASTAL DISTRICT

The prolific Ventura Avenue field yielded two new wells this week and in keeping with past experience Shell, 122 Taylor, out in the west end of the field, proved to be an excellent completion. This new well tanked 3,465 bbl. of very clean 30.9-gravity oil and produced 2,815,000 cu. ft. of gas per day from the equivalent of the 57 zone. The significant thing in connection with the completion of No. 122 Taylor is not restricted alone to the large production secured but rather to the casing program followed. During the past year, operators in the Ventura Avenue field have been attempting to reduce drilling costs. In the past, due to the large number of separate and productive zones, it has been customary to land several strings of casing to protect the productive sands from infiltration and water encroachment. During the past few months, Shell and Tide Water Associated Oil Co. have been limiting casing to surface pipe, a water string and a long string of liner. Both companies followed this new casing program for Ventura Avenue wells in their respective completions this week. Casing costs have been reduced at least 40 per cent.

A check of the casing program used in the completion of No. 122 Taylor of Shell Oil Co., Inc., and No. 7 Ventura Land & Water of Tide Water Associated Oil Co. will indicate the new casing program that has been approved by the Mining Bureau with reservations. No. 122 Taylor was bottomed at 7,668 ft. and finished with 708 ft. of 11¾-in. surface pipe; 7,665 ft. of 7⅝-in. casing cemented as a water string at 6,347 ft. and 1,199 ft. of 5½-in. liner landed at 7,665 ft. and carrying perforations at 6,510-6,626 ft., 6,648-6,770 ft., 6,812-7,251 ft. and 7,298-7,665 ft. It will be noted that part of the hole has been blocked off with blank pipe and was obviously well caked with drilling mud during drilling operations. It has been the contention of Shell and Tide Water Associated Co. engineers that the separate strings of casing were unnecessary because most of the upper zones due to depletion acquired a mud cake during drilling that actually sealed them off almost as effectively as a string of casing.

This fundamental principal of mud caking is now accepted for Ventura Avenue as far as the upper zones are concerned as there is not enough gas pressure or volume to prevent the mud from effectively caking. No. 7 Ventura Land & Water of Tide Water Associated Oil Co. was completed flowing 313 bbl. of clean 31-gravity oil and 402,000 cu. ft. of net formation gas on a compressor at 8,657 ft. This well was finished with 8,570 ft. of 5¾-in. casing and 121 ft. of 4-in. liner landed at 8,652 ft. and perforated at 8,576-8,652 ft. In addition to this, the well had a string of 9-in. casing landed and cemented at 6,007 ft. but this casing was landed when the well was originally completed a few years ago at 7,140 ft. It will be noted, however, that there is 2,563 ft. of hole between the shoes of the two strings with no intermediate cementing through perforations.

The old method of completing wells in the Ventura Avenue field is illustrated by the casing program on No. 75 Lloyd and No. 127 Lloyd of Tide Water Associated Oil Co. The former which was finished at 6,995 ft. required 193 ft. of 24¾-in. surface pipe; 797 ft. of 18⅝-in.; 5,387 ft. of 11¾-in.; 6,275 ft. of 8⅝-in. and 730 ft. of 6⅝-in. liner. No. 127 Lloyd, completed at 9,900 ft., required 192 ft. of 23-in. surface pipe; 793 ft. of 18⅝-in.; 5,630 ft. of 11¾-in.; 8,725 ft. of 7⅝-in. and 1,211 ft. of 5⅛-in. liner. In addition to cutting the cost of drilling by dispensing with at least one string of casing the new program has reduced drilling time to a substantial extent. This is an important item because Ventura Avenue is the toughest field in the state to drill.

COASTAL DISTRICT COMPLETIONS

Ventura Avenue

Shell, 122 Taylor.....29-3n-23w
Flow 3,465 bbl., 30.9 gravity, 0.3 per cent cut; 2,815,000 cu. ft. gas. T.D. 7,668 ft. 126/64-in. bean. Pressures 250/1,000 lb. Elevation 427 ft. Located in Ventura County.

Tide Water, 7 V.L.&W.....23-3n-23w
Flow compressor 313 bbl., 31 gravity. Net formation gas 402,000 cu. ft. Deepened from 7,140 ft. to 8,657 ft. Elevation 633 ft. Located in Ventura County.

COASTAL DISTRICT WILDCATS

Betteravia District

Union, 2 Pezzoni.....33-10n-35w
Coring for oil sand at 5,200 ft. Outlook for new discovery is not considered any too bright. Located in Santa Barbara County.

Goleta District

Texas, 1 Bishop.....13-4n-29w
Drilling ahead at 3,390 ft. Cored Vaqueros at 3,306 ft. and found interval barren. Formation 3,306-44 ft. tight gray sand and from 3,344-63 ft. formation was soft, silty sand. Formation test 3,306-63 ft. resulted in recovery of 1,300 ft. salt water. The well will be drilled ahead for a look at the underlying Sespe formation.

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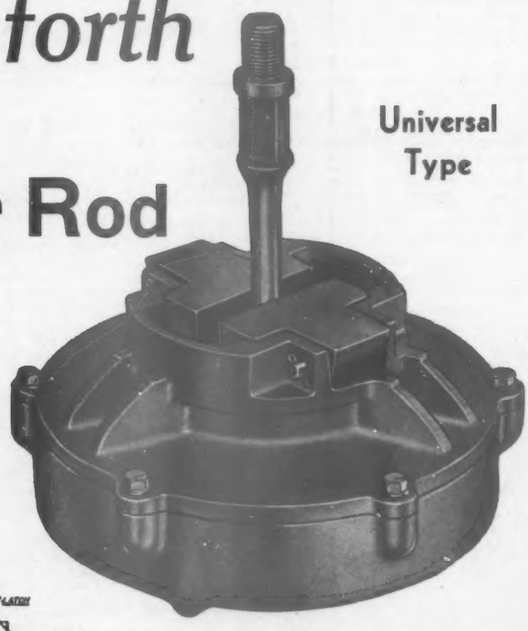

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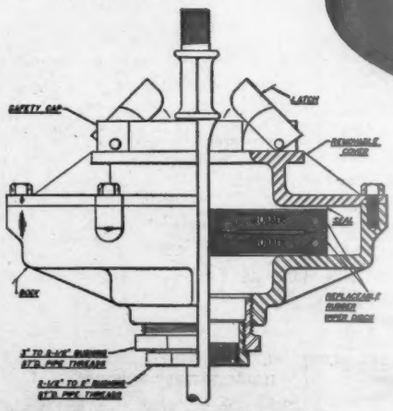

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CANADIAN FIELDS

Extension in Upper Pay in North Turner Valley Field

By VICTOR LAURISTON

CHATHAM, Ont., Aug. 10. — In 15-20-3w5, North Turner Valley, Anglo-Phillips 1, LSD 14, has been given official allowable of 400 bbl. a day. The well, located in a new area south and west of the earlier North Turner Valley producers, was drilled by Anglo-Canadian Oil Co. on acreage of John (Red) Phillips and associates. It was originally carried to 9,058 ft., encountering water with crude in the lower lime, and was cemented back to 8,780 ft. to take production from the upper horizon. Location is approximately 2 miles south of Home Oil, 2 Millarville, discovery well. The completion opens a considerable new area in North Turner Valley for development.

In 27-20-3w5, Foothills, 6, LSD 5, finished in the Madison limestone at 8,140 ft., has been given allowable of 350 bbl. a day.

In 34-20-3w5 Alberta Oil Incomes, 1, LSD 4, finished in the black lime at 6,974 ft., flowed 1,098 bbl. a day through 1-in. choke with gas-oil ratio of 1,500 ft. Crude tested 46 gravity, somewhat higher than usual. Official allowable was set at 900 bbl. a day, being exceeded only by two other North Turner Valley producers, Home, 3, with 1,100 bbl. and Home, 2 with 1,064 bbl. The company, in order to protect the gas-oil ratio, is planning to operate the well on a voluntary quota of 700 bbl. a day.

In 5-19-2w5, West Central field, Royalite, 51, LSD 13, finished at 7,413 ft., has been given official allowable of 250 bbl. a day.

In 29-18-2w5, Commoil, 3, LSD 13, finished at 8,611 ft., tested 1,355 bbl. a day through 1-in. choke, and allowable around 450 bbl. a day is expected. These completions give a total of 116 crude producers, with aggregate allowable of 28,150 bbl. a day.

In 7-19-2w5, West Central field, Pacific Petroleums, 5, LSD 6, is below 7,733 ft. after getting the Madison lime at 7,638 ft.

Summary of California Oil-Field Operations, June 1940

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells Drillers	Abd. wells Producers
Group No. 1—							
Arvin	0	0	1	528	16	0	0
Belridge—North	1	4	1	187	89	0	0
Belridge—South	0	0	0	.....	157	0	0
Canal	0	0	1	270	33	0	0
Canfield Ranch	0	0	0	.....	1	0	0
Coalinga	10	17	7	12,866	886	0	5
Cole's Levee	1	4	1	1,332	22	0	0
Edison	1	1	1	170	95	0	0
Elk Hills	0	0	0	.....	194	0	0
Fruitvale	0	1	0	.....	169	0	1
Greeley	1	5	1	1,325	30	0	1
Kern River	0	1	1	3	1,560	0	3
Kettleman Middle Dome	0	0	0	.....	.....	0	0
Kettleman North Dome	3	8	1	263	262	0	0
Lost Hills	0	0	2	57	359	0	0
McKittrick	1	2	1	140	206	0	0
Midway-Sunset	2	4	4	356	2,627	1	1
Mountain View	0	0	0	.....	185	0	3
Mount Moso	0	1	0	.....	289	1	0
Paloma	1	1	1	1,900	2	0	0
Rio Bravo	5	6	3	4,019	53	0	0
Round Mountain	0	0	1	52	220	0	0
Strand	0	0	0	.....	9	0	0
Ten Section	4	4	1	1,978	51	0	0
Tupman	13	13	3	4,477	12	0	0
Wasco	0	2	0	.....	10	0	0
Wheeler Ridge	0	1	0	.....	34	0	0
Group No. 2—							
Capitan	0	0	0	.....	44	0	0
Elwood	0	0	0	.....	74	0	0
Rincon	0	1	2	1,076	64	0	0
San Miguelito	1	1	0	.....	20	0	0
Santa Barbara	0	0	0	.....	20	1	2
Santa Maria	0	0	2	2,025	168	0	2
Santa Maria Valley	4	0	0	.....	143	0	0
Summerland	0	1	0	.....	8	0	2
Ventura Avenue	8	12	5	6,907	317	0	0
Ventura-Newhall	1	11	3	1,635	572	3	1
Watsonville	0	0	0	.....	7	0	0
Group No. 3—							
Brea-Olinda	0	0	0	.....	354	0	0
Coyote—East	2	3	1	550	82	0	0
Coyote—West	0	0	0	.....	60	0	0
Dominguez	2	5	3	2,411	191	0	0
El Segundo	0	0	0	.....	44	0	1
Huntington Beach	2	4	2	487	527	1	3
Inglewood	0	1	0	.....	216	0	0
Lawndale	0	0	0	.....	5	0	0
Long Beach	3	5	1	26	1,217	0	5
Los Angeles-Salt Lake	0	0	0	.....	103	0	0
Montebello	0	4	1	135	347	0	0
Playa Del Rey	0	0	0	.....	158	0	3
Potrero	1	1	1	50	19	0	1
Richfield	0	1	0	.....	304	0	0
Rosecrans	5	8	2	1,715	158	0	0
Santa Fe Springs	0	0	0	.....	578	0	0
Seal Beach	0	0	0	.....	120	0	1
Torrance	0	0	0	.....	689	2	13
Whittier	0	1	1	55	38	0	0
Wilmington	10	9	17	28,480	842	0	0
Miscellaneous drilling	10	30	0	.....	.....	4	0
Group No. 4—Gas fields—							
Buena Vista Lake	0	0	0	.....	1	0	0
Buttonwillow	0	0	0	.....	5	0	0
Chowchilla	0	0	0	.....	.....	0	0
Delano	1	1	1	gas	13	0	0
Dudley Ridge	0	0	0	.....	.....	0	0
Fairfield Knolls	0	0	0	.....	.....	0	0
Goleta	0	0	0	.....	.....	0	0
Marysville Buttes	0	0	0	.....	3	0	0
McDonald Island	0	0	0	.....	5	0	0
Rio Vista	1	1	0	.....	25	0	0
Semi-Tropic	0	0	0	.....	.....	0	0
Tracy	0	0	0	.....	4	0	0
Total June	92	175	73	75,475	15,107	13	48
Total May	115	190	90	90,680	15,141	15	21
Decrease (*Increase)	23	15	17	15,205	34	2	*27

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Personal Paragraphs

M. M. HELLER, Shreveport, La., has been promoted to the position of assistant to the superintendent of compressor stations for United Gas Pipe Line Co. He was formerly instructor in mechanical engineering at the University of Texas, joining United in 1937 and transferring from Houston, Tex., to Shreveport when the company moved its head offices to the latter city.

N. C. McGOWEN, president of Union Producing Co., Shreveport, La., will be a featured speaker at the Mississippi Oil Exposition, Yazoo City, Miss., August 28 and 29, celebrating the first anniversary of discovery of oil in the state by Union Producing Co. PAUL WEAVER, geologist with Gulf Refining Co., Houston, Tex., is also expected to deliver an address.

J. S. BRIDWELL, independent oil operator of Wichita Falls, Tex., last Saturday was appointed to the board of directors of the Texas Big Bend Park Association.

WILLIAM McLEAN, production foreman for General Petroleum Corp. at the Long Beach and Wilmington, California, fields, recently completed 30 years of uninterrupted service with the company.

EARL BLACKBURN, formerly in the production department of the J. M. Huber Corp., Amarillo, Tex., has been made a vice president of the firm and will have charge of the production department.

DR. C. W. RIPPIE, petroleum technologist of Solvay Sales Co., addressed members of the Ark-La-Tex chapter, Western Petroleum Refiners Association last week on the subject, "Chemical Problems of Crude Oils and Distillates."

DAN LONG, formerly with Lone Star Gas Co., is supervising the drilling of three deep wells in the Opelika field for Shamrock Oil & Gas Co., which plans a cooperative recycling project with Lone Star in the unitized field in East Texas.

CHARLES O. FAIRBANK, manager of the Fairbank oil properties at Petrolia, Ont., has been accepted by the Engineers Corps of the Canadian Army. Mr. Fairbank is a graduate petroleum engineer from the University of California, and is the youngest member of the Ontario Parliament.

CLARENCE E. OLMSTED, vice president of Texas Co. with offices in New York, is spending a combined vacation and business visit in Los Angeles, Calif. The vacation portion was in connection with the marriage of his daughter Louise to H. W. Dougherty last week.

REESE H. TAYLOR, president of Union Oil Co., Los Angeles, Calif., has been trying to figure out what the keys to a city look like for the past several weeks because he will be presented with the keys to Santa Paula, Calif., during Union's homecoming celebration August 24 and 25. The company is celebrating its fiftieth birthday and the executives and employes are going back to where the company had its first office and where it was incorporated.

JOHN J. McCREA, formerly division clerk for Stanolind Oil & Gas Co. at Fort Worth, Tex., has been promoted to production superintendent of the Panhandle and North Texas district. F. L. GEHR, formerly in charge of the Panhandle and North Texas district, has been transferred to Nocona, Tex., in charge of that area.

LAURENCE DOWNS, of Union Oil Co. with offices at Astoria, Wash., almost won the Astoria Salmon Derby recently. Mr. Downs caught a 48-lb. salmon that was tops for 4 days and up until the last hour of the annual contest when another Isaac Walton walked in with one that tipped the scales at an even 49 lb.

R. S. ELLISON, president of the Stanolind Pipe Line Co., Tulsa, will deliver the dedicatory address Friday at the placing of a marker near Buffalo, Wyo., honoring John Portuguese Phillips, Wyoming pioneer. The ceremonies are being held under the auspices of the Historical Landmark Commission of Wyoming. While a resident of Wyoming, Mr. Ellison was the first chairman of this commission.

L. L. BECHTEL, formerly with Stanolind Oil & Gas Co. at Casper, Wyo., has been transferred to Brownfield, Tex., in charge of the company's production in the Slaughter field of Hockley County. VANCE SIBLEY, formerly in the company's production office at Midwest, Wyo., likewise has been moved to Brownfield where he will be in charge of production in the Cedar Lake field.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

J. F. Darby, Muskogee, Okla., was authorized to supervise riverbed drilling operations in the Cushing field by an order of federal Judge Robert E. Campbell.

In Miri, Sarawak, British Borneo, the Standard Oil Co. of New York has acquired oil properties and will conduct important operations there.

The daily average production of the Healdton field will reach 100,000 bbl. daily in the near future, according to a report of Art L. Walker, conservation officer.

20 YEARS AGO

One of the largest wells recently completed in Kentucky is White & Moore's No. 1 Potter, 6 miles south of Bowling Green, Warren County, good for 2,000 bbl. daily.

Oil men are complaining because of the effects of the restrictive policy adopted and applied in financial circles under pressure of the Federal Reserve banking system. Loans for all purposes are most difficult to obtain and the deflation methods now in vogue are having bad effects on even the best of oil stocks.

Fire resulting from an electrical storm destroyed 40,000 bbl. of oil at Pine Grove, W. Va., belonging to Pure Oil Co. and worth $6.10 a barrel.

10 YEARS AGO

Dr. Eugene A. Stephenson, former chief geologist of South Penn Oil Co., has become professor of petroleum engineering at the School of Mines and Metallurgy, University of Missouri.

The week's death list included James H. Snowden, of the firm of Snowden & McSweeney, of Oil City, Pa., and D. S. Wakenight, Pittsburgh, Pa., dean of oil news writers.

DICK SCHWAB, independent operator of Houston, Tex., has returned from an extended vacation trip to Colorado.

NORMAN A. DAVIS, of the Mid-Penn Refining Co., Oil City, Pa., has returned from Camp Meade, Va., where he attended the Professional Men's Military Training Camp.

GEORGE KIRKWOOD is superintendent of the new Grapeland Oil Co. recycling plant recently placed on stream in the Grapeland field, East Texas.

ALVIN BONEY, formerly in the geological department of Sinclair Prairie Oil Co.'s Amarillo, Tex., office, has been transferred to Indiana to do special land work.

H. C. ARNOLD and W. K. WHITEFORD, vice presidents of the British American Oil Co., Tulsa, were business visitors to the Gulf Coast district the past week.

A. GORDON KING, service engineer for the American Gas Association for the past 17 years, has been appointed secretary of the technical section, and will remain in New York City. He succeeds the late Hugh W. Hartman.

C. L. HEROLD, district geologist in South Louisiana for Shell Oil Co., Inc., has returned to the Houston, Tex., office after a vacation in California. While at Bohemian Grove, Calif., he was a guest at the annual summer encampment of the Bohemian Club of San Francisco.

DR. W. B. EMERY, head of the geological department of the Ohio Oil Co., Findlay, Ohio, last week visited the company's Casper, Wyo., offices and nearby fields.

PAUL M. GREGG, vice president and general counsel for Union Oil Co., Los Angeles, Calif., has retired after many years of service with the company.

ANTHONY J. WACKER, district superintendent for Tropical Oil Co. at El Centro, Colombia, South America, is visiting friends in Fairfax, Okla., on a 3 months' leave of absence.

ALFRED E. PIERCE, Socony-Vacuum Oil Co., Inc., was among the passengers aboard the Dixie Clipper of the Pan American Airways returning from Europe last week.

O. G. HOLMES, independent operator of Wichita Falls, Tex., sustained a broken leg and slight other injuries when his automobile collided with another last week near Azle, Tex.

ROBERT L. SOUDER, independent oil operator of Wichita, Kans., last Saturday was married to Miss Nancy Traylor, of Chicago, in Richmond, Mo. They will make their home at Wichita.

WALTER HOLMES, independent operator of Amarillo, Tex., and JACK BERRY, Amarillo representative of Continental Supply Co., were two members of a party which sailed from Seattle, Wash., last week for a 2 months' big-game hunt in Alaska.

HERMAN B. DEMPSEY, formerly assistant foreman of the Ranger district for the pipe-line department of Lone Star Gas Co., Dallas, Tex., has been promoted to foreman of the Ballinger district for the company. The family will move their home from Pueblo to Ballinger, the new headquarters.

Geologist 45 Years

Dr. W. C. Mendenhall is no amateur rock hound. His geologic experience covers more than 45 years, all of which have been spent with the U. S. Geological Survey. He has been director of this supreme authority on matters geologic since 1931, and for 9 years prior to his appointment as director had served as chief geologist for the U. S. G. S.

DR. W. C. MENDENHALL

Dr. Mendenhall is a product of Ohio, in which state he was born in 1871. His education was received at Ohio Normal, Harvard and Cambridge universities.

He began his service with U. S. G. S. in 1894 as geologic aid. He became assistant geologist 2 years later and in 1910 he was appointed geologist. In that year he was made chief of the Land Classification Board and served for 12 years. Last June he was honored by Harold Ickes, secretary of the interior, when Mr. Ickes named Dr. Mendenhall to head the oil resources division of the Defense Resources Committee.

Dr. Mendenhall is a fellow of the American Association for the Advancement of Science, Section E, of which he served as vice president in 1922. He is also a member of the Geological Society of America, with 1 year's presidency to his credit; the Geological Society of Washington (president 1 year); the National Academy of Sciences; the Washington Academy of Sciences, and the A.I.M.E. He belongs to several clubs in Washington and in New York, and is the author of many papers, most of which have appeared in publications of the U. S. G. S. He is married, has two daughters and lives in Chevy Chase, Md.

R. W. METCALF, of Signal Oil Co., was recently elected treasurer of the California Petroleum Safety Board, Inc., and PAUL STANLEY, of Barnsdall Oil Co., was elected secretary.

GEORGE B. DAVIES, formerly with Grogan Oil Co. at Shreveport, La., is now associated with Spencer Petroleum Co. as its Wisconsin representative with headquarters in Milwaukee.

IVAN R. CUNNINGHAM, chief accountant of the Standard Oil Co. of Venezuela is returning to the company's headquarters at Caracas, Venezuela, after spending a 3-month leave at points in this country.

TED GREEN, formerly scout and land man for British American Oil Producing Co., at Midland, Tex., left last week for Denver, Colo., from which point he will be transferred to Alberta, Canada.

JOSEPH McDONALD, prominent independent operator with substantial producing properties in the San Joaquin Valley of California, left early this week for an extended trip to Japan, Honolulu and the Far East with his family. He will be gone 2 months.

C. L. SUHR, chairman of the board of the Pennzoil Co., Oil City, Pa., is receiving congratulations for success in another field. A registered Guernsey cow at his Hilltop farm was the best butterfat producer in Venango County for the second consecutive month.

J. R. HORRIGAN, pipe-line construction superintendent for Williams Brothers Corp., of Houston, Tex., has been temporarily moved to Norman, Okla., to direct construction of the gasoline line being laid by Magnolia Pipe Line Co. from Fort Worth, Tex., to Oklahoma City.

Shifts: H. F. GOSS, superintendent, Humble Oil & Refining Co., from Baytown, Tex., to Ingleside, Tex.; H. D. WILDE, JR., engineer, Humble Oil & Refining Co., from Baytown, Tex., to Houston, Tex.; JOHN McFADYEN, vice president, Ohio Oil Co., from Los Angeles, Calif., to Beverly Hills, Calif.; C. A. DAVIS, superintendent, Roeser & Pendleton, Inc., from Athens, Tex., to Albany, Tex.; W. C. NYE, superintendent, Cardinal Oil Co., from Iraan, Tex., to San Angelo, Tex.; C. N. HUNT, engineer, Humble Oil & Refining Co., from Penwell, Tex., to Crane, Tex.; J. J. O'BRIEN, engineer, Sunset Oil Co., from Corpus Christi, Tex., to Los Angeles, Calif.; JOSEPH M. WILSON, vice president, Salt Dome Oil Corp., from Houston, Tex., to Dallas, Tex.; E. H. SHANNON, engineer, Texas Co., from Opelousas, La., to Yoakum, Tex.; R. A. MILLER, superintendent, Magnolia Petroleum Co., from El Dorado, Ark., to Talco, Tex.; T. C. CRANKHITE, superintendent, Adams Oil & Gas Co., from Carlyle, Ill., to Centralia, Ill.; CLYDE F. WALKER, engineer, Chester Oil Co., from Valparaiso, Ind., to Owensboro, Ky.; WILLS M. DECKER, engineer, Cities Service Oil Co., from Hattiesburg, Miss., to Columbus, Tex.; RAYMOND R. RICE, engineer, Texas Co., from Tulsa, to Seminole, Okla.; W. F. DALTON, superintendent, Hunt Oil Co., from Palestine, Tex., to Shreveport, La.

J. L. ESSLEY, president; FRANK McKAY and F. A. BODOVITZ, vice presidents of Superior Oil Corp., Tulsa, were business visitors in Fort Worth, Tex., last week.

W. G. SKELLY, newly elected president of the East Texas Refining Co., was accompanied by J. S. FREEMAN, general superintendent, on a tour of inspection of company properties in East Texas.

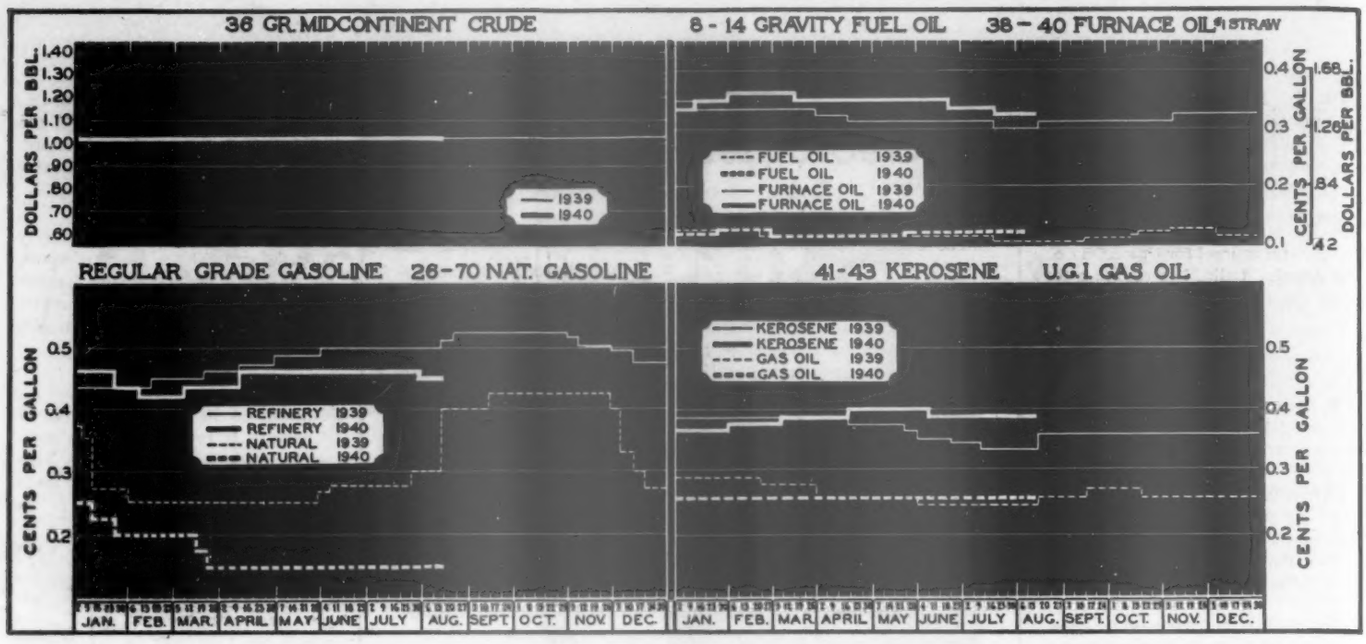
M. L. CURTIS, training engineer for Carter Oil Co., was the main speaker at a meeting of the Seminole, Okla., chapter of the American Petroleum Institute on August 9. He spoke on the "New Technique of Supervision."

ROBERT J. STONE, general superintendent, Standard Oil Co. of Louisiana, Baton Rouge, is wearing a 30-year service button that was presented to him at a recent meeting of the refinery's manufacturing committee.

LAWRENCE E. SMITH, director of public relations for the Independent Petroleum Association of America, Tulsa, has returned from a motor trip to southern California and intermediate points.

E. J. BARTOSH, Bank Line Oil Co., Los Angeles, Calif., has been appointed chairman of the program committee of the Pacific Coast district meeting of the American Petroleum Institute. The meeting is scheduled for March 11, at the Biltmore Hotel in Los Angeles.

J. B. McNARY, Hamilton, Ont., was elected president of the Canadian Gas Association at the association's recent annual meeting in Jasper, Ont., Canada. Other officers elected were: W. J. PEAD, JR., Montreal, Que., first vice president; FRANK D. HOWELL, Brantford, Ont., second vice president; and JULIAN GARRETT, Edmonton; JOHN KEILLER, Vancouver; A. MacKENZIE, Toronto; W. H. MUNRO, Ottawa; J. C. DAWSON, Quebec; W. C. PHILPOTT, Toronto; T. P. PINCKARD, Hamilton; J. R. HARRIS, JR., Winnipeg; and K. L. DAWSON, Halifax, were elected as executives.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Gasoline Movement From Inland Refineries Near Summer High

By H. STANLEY NORMAN

GASOLINE shipments from Group 3 refineries continue at, or near, the summer's peak, being exceeded only by the movement in the last week of June when all classes of customers accepted delivery up to the full extent of their storage capacity.

The normal market for Group 3 refinery products is just now being completely freed of surplus purchases made in June to gain advantage of the 0.5 cent advance July 1 in federal gasoline taxes. The list of jobbers returning to the Group 3 market has been growing in recent weeks. Indications now are that practically all buyers have cleaned up their surplus June purchases and that they are again dependent on regular shipments against contracts or on open-market purchases.

Natural Gasoline Moving

Demand for natural gasoline in the Group 3 territory appeared to be greater at the start of the week continuing a trend that became noticeable at the start of August. The revival in demand for natural gasoline is confined to the Group 3 territory and the volume is still readily filled from nearby plants. Stimulation of the trade in natural is attributed to general motor-fuel market conditions. Subnormal demand by regular refinery customers, following the end-of-June buying wave, limited requirements for natural gasoline and consequently shipping instructions backed up to the racks of the manufacturers.

Prices in the Group 3 market for natural gasoline are unchanged. Scattered sales are reported at prices higher than general quotations but this business is restricted to plants in a favorable location with respect to the refining customer. Natural gasoline is available in Texas on a base price of 1.25 cents for 26-lb. material. Shipments originating in Oklahoma are generally moving at a base price of 1.5 cents for 26-lb. natural if the destination brings it into direct competition with naturals produced in Texas. Sales range up to a base of 2 cents in Oklahoma and Kansas providing the freight rate to point of delivery is low enough to prevent active competition by Texas producers.

Several Oklahoma refiners are buying gasoline in the open market to cover contract commitments with northern jobbers. There has been no difficulty reported in locating all material needed to cover shipping instructions even at the current quotations which were lowered an eighth of a cent the last few days of July.

The fear that Gulf Coast refiners would start shipping gasoline overland, or in greater volume through the inland waterways expressed a week ago by Group 3 operators has just started. Failure of the northern overland or river shipments to develop faster does not necessarily remove the possibility that this movement will yet become a market factor. There is no doubt that Gulf Coast refiners are being hard pressed by restrictions imposed by Washington on gasoline exports and by the excessive stocks there and on the East Coast. Apparently, however, the desire to force gasoline on the market has now reached the point where price concessions necessary to offset greater freight charges to the Middle West are justified.

Tank-Car Price Firmer

In fact, the tank-car market in the Middle West, particularly in the Chicago territory, shows a stronger undertone this week than at the start of August. Jobbers and other outlets currently display less resistance to refiners' quotations. The decline of Illinois production and restitution of crude prices in the Southwest has temporarily ended the likelihood of a break in the raw-material market which could have reacted in gasoline quotations.

Practically all producers of zero-distillate fuel oils are now storing material awaiting the early fall demand. Inquiries are floating through the market for low-cold-test distillate fuels without receiving much interest from producers. Prices quoted by refiners for light fuels are unchanged. Refiners have not generally made any particular effort to determine whether customers would resist higher quotations because they are not anxious, or scarcely willing, to sell at present prices since the burning season is approaching in the northern part of the country.

Heavy fuel oils are in active demand in the Chicago district. Most of the Group 3 production is consumed under contracts with railroads.

Refined Oil Market Barometer

Distillate fuel oils are showing more strength. Jobbers are casting about for early fall requirements. Gasoline prices in general are unchanged. Motor-fuel demand continues at a high level. Interrefinery buying in the Mid-Continent district is increasing. Natural-gasoline business has improved in the past few days.

MID-CONTINENT. Scattered spot sales of 26-70 natural gasoline at 2 cents are reported.

EAST COAST. Tank-car and tank-wagon gasoline prices drift into lower ground.

GULF COAST. Gasoline prices remain soft. Export movement has not improved.

CALIFORNIA. Gasoline, kerosene, diesel and fuel oil unchanged and moving in narrow range.

CHICAGO. Gasoline is firmer. Interest in fuel oils spreading.

Northeastern Gasoline Prices Crumble as Summer Wanes

By J. P. O'DONNELL

NEW YORK, Aug. 13.—Widespread reductions in gasoline tank-car and tank-wagon prices throughout the New York and New England territory were posted by leading suppliers last week as the heavy summer consuming season neared its end without effecting a sufficiently substantial reduction in topheavy inventories that have been maintained throughout the year. Most of the reductions in the posted prices went into effect August 7 and were occasioned, in part, by the fact that price shading on the part of smaller suppliers had been in effect for some time.

Reductions covered the area from New York to Maine, averaging 0.3 cent in the tank-car price and ranging from 0.3 to 0.8 cent in the tank-wagon price. Due to a heavy concentration of retail outlets, this area is one of the most active in the country from the standpoint of price fluctuations and this year has witnessed more changes than any other section.

Factors that undoubtedly contributed to last week's reduction were increases in storage of gasoline and evidence that consumption in the northeastern area has not increased in proportion to the national average. The American Petroleum Institute reported gasoline inventories on the East Coast at 22,221,000 bbl. at the end of the first week of August against 21,846,000 bbl. at the end of the last week in July, an unusual increase seasonally of 375,000 bbl. Statistics on gasoline consumption recently issued show that the majority of the northeastern states are running below the national average which is up 6.11 per cent. New York, the nation's principal gasoline-consuming center, registered a gain of only 2.57 per cent in consumption in the first 5 months of this year.

The retail gasoline price structure in metropolitan New York also revealed evidence of weakness during the past week when it was reported that concessions were being offered by a number of stations. While most stations were still offering gasoline at 6 gallons for 98 cents, others were reported to be offering 6 gallons for 92 cents; 7 gallons for $1.05 and 8 gallons for $1.20.

With demand running at its normal low at this time of the year, the fuel-oil market remained slow. The heavy fuel-oil market was reported weaker in some instances last week but this contrasted with the report of a decrease in inventories that should have had a beneficial effect. Residual fuel-oil stocks on the East Coast actually declined in the first week in August and were reported off 167,000 bbl. to 10,293,000 bbl. Despite this statistical improvement the previous week's reduction of from 3.5 cents to 3.3 cents was not only generally adopted but reports were current that heavy fuel oil could be obtained at 3.25 cents.

There was some evidence of increasing firmness in the Bunker C fuel-oil market, not so much the result of improved demand in this quarter as to better status on the Gulf Coast. It was reported that a cargo of Bunker C fuel oil moved at the Gulf last week at 88 cents, up 3 cents from the price that had been generally quoted previously. Whether or not this will be reflected to any great degree in the New York Harbor area is questionable due to the increasing supply of tanker tonnage at reduced rates.

Continued dullness in the tanker trade has dropped the price for dirty tonnage in the Gulf-to-north-of-Hatteras service to a new low of 19 cents per barrel for gasoline. This represents a drop of another cent from the rates reported a week earlier. As a result of the low rates and lack of business more than a score of tankers, virtually all dirty bottoms, have been taken out of service.

Both white and yellow scale wax, 124-6 A.m.p., continued to show the effects of a slowing down in the export trade and are currently quoted at 2 cents per pound, another reduction of an eighth cent from the preceding week. Domestic demand is apparently holding up satisfactorily but has not been sufficient to offset export losses. Importance of the export market for wax is shown in the report on demand for the first 6 months. Of a total demand of 275,000,000 lb. in that period, 129,000,000 lb. went into export and 146,000,000 lb. was consumed domestically. Some minor reductions were reported in the refined grades last week also.

The export market continues dull with little prospect of improvement. This dullness accounts for the fact that there has been no particular reaction to the export restrictions in this area. Lack of activity in the export market has resulted in the increase in tanker tonnage available and this increase has tended to soften some of the local products. This accounts for the doubt that the improvement in Bunker C on the Gulf will be reflected on the East Coast. Some spot-market business at $1.15 per barrel has been reported in the New York Harbor area, off 10 cents from the week before. This has been reported as an attempt to meet contract prices which are $1.15 to September 30 but is also regarded as a reflection of the slumping tanker rates.

Several suppliers of Pennsylvania lubricating oils have stated that new restrictions on lubricating-oil exports have not affected what remains of their export business but express fear of the effects if the Government decides to clamp down. They point out that regulations issued so far can be interpreted to include most all Pennsylvania lubes. Principal difficulties so far have been limited to obtaining clearances which have re-

(Continued on Page 111)

Gulf Coast Markets

HOUSTON, Tex., Aug. 12.—Movement of Gulf Coast gasolines in tank cars northward in competition with Mid-Continent and North Louisiana and Arkansas refiners was reported the past week. Coastal refiners, it was stated, were absorbing the difference in freight rates.

This movement reflects the pressure being placed on coastal refiners by backing up of tanker shipments as a result of loss of export outlets. Sales of occasional tank cars of gasoline have been made during the past several months, but during the past week this business reached conspicuous proportions.

Sales were not of sufficient volume, however, to bring any direct beneficial results to the market, which continued depressingly weak and sluggish. Nevertheless, the sales indicated a tendency brought about by the general weakness and existing low prices quoted.

Sale of a cargo of 70-72-octane gasoline at Corpus Christi was reported late in the week with Tide Water Associated Oil Co. as the purchaser. While the actual price was not stated, it was indicated to have been around 3.75 cents.

Otherwise, gasoline business continued to be confined largely to contract movement to established domestic outlets. With consumption of gasoline being maintained at high levels in the East, no letup has been felt so far in shipments on contract from coastal refiners.

Fuel oils, both the heavy residual

(Continued on Page 111)

A.P.I. Weekly Refinery Statistics

Week Ended August 10, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	21,317,000	10,865,000	14,739,000	577,000
Appalachian	91.0	3,518,000	471,000	420,000	113,000
Ind., Ill., and Ky.	90.2	14,930,000	3,351,000	4,913,000	525,000
Okla., Kans., and Mo.	76.9	6,463,000	2,075,000	1,491,000	262,000
Inland Texas	59.6	1,684,000	1,444,000	351,000	119,000
Texas Gulf	85.3	13,106,000	7,232,000	6,360,000	756,000
Louisiana Gulf	97.6	2,752,000	1,621,000	1,147,000	119,000
N. Louisiana and Ark.	51.5	491,000	520,000	280,000	49,000
Rocky Mountains	56.0	1,030,000	560,000	124,000	66,000
California	87.3	15,809,000	77,267,000	9,887,000	468,000
Total reported	85.3	81,100,000	105,406,000	39,712,000	3,054,000
Est. unreported	.....	7,015,000	2,195,000	1,665,000	381,000
*Est. total	.....	88,115,000	107,601,000	41,377,000	3,435,000
*Est. total previous wk.	.....	89,492,000	106,919,000	40,448,000	3,510,000
*July 11, 1939	.....	76,244,000	115,561,000	36,003,000	3,460,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended August 3, 1940	264,297,000 barrels
Week ended July 27, 1940	262,579,000 barrels
Week ended August 5, 1939	268,982,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 13, 1940

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Gasoline: Incl. tax	Kero. tank wag.
Chicago, Ill.	15.6	13.6	4.5	10.0
Decatur	14.6	13.1	4.5	9.5
Joliet	15.6	14.1	4.5	10.0
Peoria	15.6	13.2	4.5	10.0
Quincy	15.4	13.9	4.5	9.8
Davenport, Ia.	15.6	14.1	4.5	†10.0
Des Moines	15.4	13.9	4.5	‡9.8
Mason City	15.8	14.3	4.5	†10.2
Duluth, Minn.	17.4	15.9	5.5	10.8
Mankato	17.0	15.5	5.5	9.0
Minneapolis	17.0	14.0	5.5	10.4
LaCrosse, Wis.	17.0	15.5	5.5	10.4
Green Bay	17.4	15.9	5.5	10.3
Milwaukee	16.8	15.3	5.5	10.2
Detroit, Mich.	14.1	12.6	4.5	7.6
Grand Rapids	13.7	11.7	4.5	9.0
Saginaw	14.7	13.2	4.5	9.3
Evansville, Ind.	17.1	15.6	5.5	†10.5
Indianapolis	17.3	14.8	5.5	†10.2
South Bend	17.3	15.8	5.5	†10.2
Fargo, N. D.	18.2	16.7	5.5	11.6
Huron, S. D.	17.5	16.0	5.5	10.9
Kans. City, Mo.*	14.9	13.4	4.5	8.0
St. Louis*	15.2	13.2	4.5	8.0
St. Joseph	14.9	12.5	4.5	7.9
Wichita, Kans.	13.8	12.1	4.5	7.0

*State tax 2 cents, 1-cent city tax, and 1¼-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal. 8.75 cents; 100-149 gal., 7.75 cents, 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Cons'r tank wag.	Gasoline: Dlr. vided tax	Gasoline: Incl. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Cons'r tank car	Gasoline: Dlr. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	12.1	13.2	4.5	7.7
Newark	12.1	13.2	4.5	7.7
Annapolis, Md.	13.85	14.85	5.5	9.5
Baltimore	13.25	14.25	5.5	8.5
Cumberland	14.65	16.65	5.5	10.0
Wash'gton, D. C.	11.50	12.50	3.5	9.5
Danville, Va.	15.45	17.95	6.5	11.0
Norfolk	14.25	16.75	6.5	10.5
Petersburg	14.55	17.05	6.5	11.2
Richmond	14.55	17.05	6.5	10.5
Roanoke	15.75	18.25	6.5	11.0
Charles'n, W. Va.	15.05	17.55	6.5	12.6
Parkersburg	14.35	15.85	6.5	11.2
Wheeling	15.35	17.25	6.5	11.8
Charlotte, N. C.	17.40	17.50	7.5	11.8
Hickory	17.95	19.45	7.5	12.3
Mt. Airy	17.80	19.30	7.5	12.2
Raleigh	17.15	16.5	7.5	11.5
Salisbury	17.45	16.50	7.5	11.9
Charleston, S. C.	15.25	17.75	7.5	9.75
Columbia	16.10	18.60	7.5	11.5
Spartanburg	16.80	19.30	7.5	12.7

Price basis to Esolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Cons'r tank wag.	Gasoline: Net dlr.	Gasoline: Incl. tax	Kero. tank wag.
Atlanta, Ga.	16.0	16.0	7.5	10.0
Augusta	17.5	17.5	7.5	10.0
Macon	17.0	17.0	7.5	9.0
Savannah	16.5	16.5	7.5	9.0
Birmingham, Ala.	17.5	17.5	8.5	9.0
Mobile	17.5	17.5	9.5	8.0
Montgomery	18.5	18.5	9.5	10.0
Jackson, Miss.	16.5	16.5	7.5	9.0
Vicksburg	16.5	16.5	7.5	9.0
Jacksonville, Fla.	14.0	14.0	8.5	8.0
Miami	14.0	14.0	8.5	8.0
Pensacola	17.5	17.5	9.5	8.5
*Tampa	18.5	15.5	8.5	8.0
Lexington, Ky.	14.5	14.5	6.5	9.5
Covington	15.0	15.0	6.5	9.5
Louisville	15.0	15.0	6.5	9.0
Paducah	15.5	15.5	6.5	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline: Cons'r tank car	Gasoline: Dlr. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.5	14.0	5.5	10.5
Pittsburgh	13.5	15.0	5.5	10.5
Allentown	13.5	15.0	5.5	10.5
Erie	13.5	15.0	5.5	10.0
*Scranton	12.5	14.25	5.5	10.5
Altoona	13.5	15.5	5.5	10.5
Dover, Del.	...	14.0	5.5	10.5
Wilmington	...	14.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank truck	Gasoline: Serv. sta.	Gasoline: Incl. tax	Kero. tank wag.
San Francisco	16.5	17.5	4.5	11.5
Los Angeles	16.0	17.0	4.5	10.0
Fresno, Calif.	17.5	18.5	4.5	12.5
Phoenix, Ariz.	20.5	21.5	6.5	*17.5
Reno, Nev.	19.5	20.5	5.5	13.5
Portland, Ore.	19.0	20.0	6.5	13.5
Seattle, Wash.	19.0	20.0	6.5	13.5
Spokane	20.5	21.5	6.5	16.5
Tacoma	19.0	20.0	6.5	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Cons'r tank car	Gasoline: Dlr. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Albany	11.7	12.5	5.5	7.6
*Met. New York, Manhat., Bronx, Queens, Brklyn., Staten Island	12.0	13.2	5.5	7.9
Buffalo	12.6	13.6	5.5	7.5
Rochester	13.1	14.2	5.5	8.1
Syracuse	13.0	12.8	5.5	8.5
Portland, Me.	11.5	13.5	5.5	7.7
Manchester, N.H.	12.1	13.0	5.5	8.8
Burlington, Vt.	12.4	14.2	5.5	8.2
Boston, Mass.	10.5	11.0	4.5	8.0
Worcester	11.0	11.8	4.5	8.1
Hartford, Conn.	11.0	11.5	4.5	7.5
New Haven	10.9	11.0	4.5	7.0
Providence, R. I.	10.4	11.5	4.5	8.0

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Gasoline: Incl. tax	Kero. tank wag.
Denver, Colo.	13.5	...	5.5	10.5
Grand Junction	17.5	...	5.5	12.5
Pueblo	15.5	...	5.5	9.0
Casper, Wyo.	16.5	...	5.5	11.5
Cheyenne	14.5	...	5.5	11.0
Billings, Mont.	17.5	...	6.5	11.0
Butte	15.5	...	6.5	13.0
Great Falls	17.5	...	6.5	12.0
Helena	15.5	...	6.5	12.5
Salt Lake, Utah	16.0	...	5.5	14.0
Boise, Idaho	20.6	...	6.5	16.0
Twin Falls	21.6	21.6	6.5	16.5
Albu'que, N. M.	16.0	...	6.5	9.5
Roswell	14.0	14.0	7.0	8.0
Santa Fe	17.0	...	7.0	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Cons'r tank car	Gasoline: Dlr. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
New Orleans, La.	14.25	16.75	8.5	†11.0
Baton Rouge	15.25	17.75	8.5	‡10.5
Alexandria	15.25	17.75	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.25	17.75	8.5	‡10.0
Shreveport	14.00	16.50	8.5	‡9.0
Knoxville, Tenn.	18.50	20.00	8.5	12.5
Memphis	16.50	18.00	8.5	11.0
Chattanooga	18.00	15.75	8.5	12.0
Nashville	17.50	18.0	8.5	11.5
Bristol	18.75	18.00	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer prices less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Incl. tax.	Kero. tank wag.
Texarkana, Ark.	13.5	5.5	7.0
Fort Smith	15.0	5.5	8.0
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	13.0	5.5	7.0
Oklahoma City	11.5	5.5	6.5
Tulsa	12.5	5.5	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Gasoline: Incl. tax	Kero. tank wag.
Omaha	17.0	15.9	6.5	9.0
McCook	17.5	14.4	6.5	9.5
Norfolk	17.5	15.4	6.5	9.9
North Platte	17.8	15.0	6.5	10.2
Scottsbluff	18.4	15.5	6.5	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Gasoline: Incl. tax	Kero. tank wag.
Dallas, Tex.	11.5	15.5	5.5	6.0
Fort Worth	11.5	15.5	5.5	7.0
Houston	12.0	16.0	5.5	8.0
San Antonio	12.5	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Incl. tax.	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.0
St. John, N. B.	24.5	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	24.0	8.0	16.5
Hamilton, Ont.	24.0	8.0	16.5
Winnipeg, Man.	27.0	7.0	21.5

Tank-Wagon Changes

Effective July 30, Atlantic Refining Co. reduced dealer tank-wagon price at Scranton, Pa., 0.25 cent.

Socony-Vacuum Oil Co., Inc., made the following changes in tank-car and tank-wagon gasoline prices effective August 7:

Consumer tank car: Buffalo, reduced 0.2 cent; Rochester, reduced, 0.2 cent; Syracuse, advanced, 0.3 cent; Portland, Me., reduced, 0.3 cent; Manchester, N. H., reduced, 0.3 cent; Boston, Mass., reduced, 0.3 cent; Worcester, reduced, 0.3 cent; Providence, R. I., reduced, 0.3 cent.

Dealer tank wagon: Albany, N. Y., reduced, 1 cent; metropolitan New York, advanced, 0.5 cent; Syracuse, reduced 1.1 cents; Portland, Me., reduced, 0.3 cent; Manchester, N. H., advanced, 0.5 cent; Burlington, Vt., reduced, 0.3 cent; Boston, Mass., reduced, 0.8 cent; Worcester, reduced, 0.3 cent; Hartford, Conn., reduced, 0.5 cent; Providence, R. I., reduced, 0.7 cent.

Continental Oil Co. reduced the tank-wagon price on regular gasoline at Denver, Colo., 2 cents per gallon August 3 and reduced third-structure gasoline there on the same date 1 cent.

Standard Oil Co. of Louisiana reduced the dealer tank-wagon price on regular gasoline 1.25 cents August 7 at Little Rock, Ark.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 13, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾
60-62 400 grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾
60-62 400	.03½	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.05
63-66 octane	.04¼	.04½
60 octane and below	.03¾	.04⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛

PENNSYLVANIA (Inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¼	.07¼
54-58 U. S. Motor	.05	.06½

EAST COAST (domestic)—

U. S. Motor grades:		
New York (Bayonne)*	.05¾	.06½
Philadelphia	.06¼	.06½
Boston	.05¾	.06
Baltimore	.06¼	.07
Charleston, S. C.	.06¼	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.04½	.04¾
70-72 octane	.04	.04¼
68-70 octane	.03⅞	.04
65-67 octane	.03¾	.04

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01½
Grade 18-55	.01⅝	.01¾

NORTH TEXAS—

Grade 26-70		.01¾
Grade 18-55		.01½

CALIFORNIA—

75-85 375-390	.04½	.05¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.01⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03⅝
46-48 gr., 210-230 l.b.p., 490-max., e.p.	.03⅞	.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅞	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (Inland refineries)—

46	.04⅞	.05
45	.04¾	.04⅞

CHICAGO (Based on Group 3)—

42-44	.04	.04⅛
41-43	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43		.051

GULF COAST (domestic)*—

41-43	.04	.04½

*Barge price ¼ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03¾	.03⅞
No. 2 straw, 32-36	.03¾	.03⅞
No. 3 zero to 10, 28-32	.03⅛	.03¼

NORTH TEXAS—

No. 1 prime white, 38-42		.03½
No. 1 straw, 38-40		.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.02⅞	.03

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-40	.03¼	.03⅝
No. 2 straw, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼

NEW YORK (Bayonne, N. J.)—

*No. 1		.051
*No. 2		.044
*No. 4		.044

Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (Inland refineries)—

36-40	.03⅞	.04

CALIFORNIA—

Los Angeles:

30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.65	.90
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03⅝	.03⅝
43-47 diesel	.03	.03¼
48-52 diesel	.03¼	.03½
53-57 diesel	.03½	.03¾
58-and-above diesel	.03¾	.04
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.80	.88
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.044
28-30 diesel (lighterage 6¼c per bbl.)	1.80	1.85
28-30 diesel (tank cars)		.044
Bunker C (to ocean-going ships in N. Y. Harbor)	1.25	
Industrial fuel (tank cars)	.033	.035

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.18
150-160 D, 0-10		.14
150-160 D, 10-25		.13½
100-110 D, 0-10		.13½
100-110 D, 10-25		.13
Steam refined:		
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.14½	.15
15 pour point	.13½	.14
25 pour point	.12	.14
Steam refined:		
600	.08	.09
650	.10	.11
600 flash	.11	.12
630 flash	.12	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.08
180-3		.09
200-3		.09½
250-3		.10¼
280-3		.11
280-4		.10½
300-3½		.11¼
350-3½		.12
400-3½		.12⅝
500-3½		.13
600-3½		.13½
100-2½ paraffin oil, 10-25		.05¼
10-25 pour point:		
200-3		.09
250-3		.10
280-3		.10⅛
280-4		.10

GULF COAST—

Pale oils:		
Pale oils:		
100-3	.05½	.05¾
200-3	.07⅛	.07¼
300-3	.07½	.07⅝
500-3½	.08¼	.08½
750-3½	.08⅝	.08¾
1,200-3½	.08¾	.08⅞
2,000-4		.09
3,000-4		.10½
Red oils:		
200-5-6	.06⅞	.07
300-5-6	.07¼	.07½
500-5-6	.08	.08¼
750	.08⅝	.08½
1,200-5-6	.08½	.08⅝

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¾	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11¼

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.22¼
10 pour point		.21½
15 pour point		.20¾
25 pour point	.19	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.24½
10 pour point		.23½
15 pour point		.22¾
25 pour point	.21	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.02½	.03

PENNSYLVANIA (Inland refineries)—

122-124 (A.m.p.) w.c. scale	.02	0.2¼
124-126 (A.m.p.) w.c. scale	.02	0.2½

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0560
128-130 (A.m.p.) wax	.0560	.0570
130-132 (A.m.p.) wax	.0580	.0595
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.02	.02¼
124-126 (A.m.p.) y.s.	.02	.02¼
Petrolatum in barrels, carload lots:		
Dark green	.02150	.02625
Amber	.02375	.02875
Extra amber	.02625	.03000
Lily white	.04375	.05000
Snow white	.05125	.06000
Cream	.03375	.04125

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.04
60-62 400	.04	.04½
61-63 390	.04	.04¼
64-66 375	.04	.04½

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05¾	.06¼
60-65 octane	.05¼	.05¾

KEROSENE

GULF COAST—

41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered		.16
630 S.R. unfiltered		.18
600 flash, S.R.		.19
650 flash, S.R		.21
Bright stock:		
Light, 25 pour point		.22

NEUTRAL OIL

200-3 color		.27
150-3 color		.25

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125	A.m.p.	.05250	.05600
125-127	A.m.p.	.05375	.05600
128-130	A.m.p.	.05600	.05875
133-135	A.m.p.	.06150	.06250
135-137	A.m.p.	.06400	.06500
Crude scale:			
124-126	w.s.	.02	.02¼
124-126	y.s.	.02	.02¼

MISSISSIPPI AND SOUTHEAST

Seven Dry Wildcats Give Mississippi Setback

By GEORGE WEBER

JACKSON, Miss., Aug. 12.—Further failure to discover additional oil reserves in Mississippi was marked by abandonment of seven wildcats during the past week. Drilling in the state is sustained by the staking of more wildcat and field tests and several of the current active operations are highly regarded.

Leasing continued quiet in Mississippi, with Alabama now the center of greatest activity. Geophysical shooting also declined in Mississippi but interest to the east indicates increasing geophysical activity in Alabama, Georgia and Florida in the next few months. Few developments of interest occurred in the state during the past week. Pickens, in eastern Yazoo County is apparently defined and the prospect to the southeast of that field failed to show oil on the first wildcat drilled on it.

Wildcat Failures

Madison County, lately the most active wildcatting area in the state, dropped off this week with three abandonments. Ralph A. Johnston, 1 Locke, School Land, located in 16-11n-3e, about 3 miles southeast of Pickens, drilled the Eutaw formation, topped at 4,855 ft. without encountering any shows of oil, and was abandoned at 5,010 ft. This test was drilled near a large block, and it was believed that the prospect might prove production either connected to Pickens, or separated from it by a saddle. Two other wildcats in the county, W. G. Ray, 1 Haffey, 7-10n-5e, and Stanolind, 1 Higgason, were abandoned after finding no shows in the Selma or Eutaw formations.

Holmes County's only wildcat operation, Lionel A. Hawkins, 1 B. W. Humphreys, was abandoned after twisting off 875 ft. of drill stem, whipstocking out at 3,900 ft. and drilling to 4,987 ft. At that depth the drill stem was stuck and the well junked and abandoned.

In the eastern section of the state, Kemper County, R. E. Manning has abandoned No. 1 W. T. Caldwell, an old test begun last year, which drilled to 3,309 ft. without encountering any shows.

Neshoba County's only current operation, J. P. Evans, 1 Oliver, 18-9n-13e, topped the Selma at 1,745 ft., the Eutaw at 2,693 ft. and the Tuscaloosa formation at 3,052 ft. before abandoning at 4,018 ft. without shows.

MISSISSIPPI—FIRST REPORTS

Tinsley—Yazoo County

Hassle Hunt, 5 J. C. Johnson, 300 ft. S. C NE SE 11-10-3.
E. C. Johnston, 6-B Broomfield, SE NW 2-10-3.

Yazoo County—Wildcat

Petroleum Exploration, 1 L. E. Vandevere, 440 ft. N, 330 ft. E, SW cor. SW SE 25-13n-1w.

MISSISSIPPI COMPLETIONS

Holmes County—Wildcat

Lionel A. Hawkins, 1 B. W. Humphreys, E½ NE SE 33-13n-2e. Twisted off drill stem, whipstocked at 3,900 ft. and drilled to 4,987 ft., junked, T.D. 4,906 ft.

Kemper County—Wildcat

R. E. Manning et al, 1 W. T. Caldwell, NW SE 25-9n-15w. Dry, T.D. 3,309 ft.

Madison County—Wildcat

Ralph A. Johnston, 1 J. W. Locke, School Land, NW NE NE 16-11n-3e. Dry, T.D. 5,010 ft.
W. G. Ray Drlg. Co., 1 Haffey, C Lot 1, SE SE 7-10n-5e. Dry, T.D. 5,020 ft.
Stanolind, 1 Higgason, W½ SW SW 10-11n-5e. Dry, T.D. 5,020 ft.

Neshoba County—Wildcat

J. P. Evans, 1 Mary Oliver, C SW 18-9n-13e. Dry, T.D. 4,018 ft.

Yazoo County—Wildcat

Kingwood, 1 P. P. Shippe, 440 ft. W, 1,320 ft. S, NE cor. SW 4-10n-1e. Dry, T.D. 6,067 ft.

Tinsley—Yazoo County

Union Prod., 3 Cesana, 548.8 ft. N, 1,933.6 ft. E, SW cor. 18-10n-2w. 600 bbl., 16/64-in. choke, tubing pressure 250 lb., casing pressure 300 lb., T.D. 4,850 ft.

A well-regarded Yazoo County wildcat, Kingwood, 1 P. P. Shippe, 4-10n-13, 15 miles east of the Tinsley field, took sidewall cores at 6,067 ft., total depth, before abandoning at that depth. The test was drilled into the Eutaw formation, topped at 5,920 ft.

The Pickens field of eastern Yazoo County has been the object of attention, as outpost tests drilled on the south and west. Exchange and Kingwood, 5 Wilburn, ¼ mile southeast of production, cored a fine sand with fair porosity and bleeding oil between 4,820 and 4,835 ft. several days ago. After coring ahead and preparing for a drill-stem test with the hole bottomed at 4,874 ft., operators pulled the derrick in. A new derrick was erected, after which drill stem was found to be stuck, and a fishing job is now under way. The Wilburn sand is reported topped at 4,865 ft., showing a salty taste, but its productive possibilities have not yet been tested. The sand cored above it is a separate horizon.

The same operators' No. 6 Wilburn, a south edge test, also cored the upper sand at 4,844-59 ft., recovering 5 ft., of which 4½ ft. was porous sand with a good odor, and ½ ft. was sandy shale showing some gas bubbles. The first drill-stem test of the section failed when the packer did not hold, and the second test showed 30 ft. of drilling mud and no oil. Operators cored ahead without encountering shows and were last reported below 4,969 ft. apparently having missed the Wilburn sand.

A wildcat drilling southeast of Pickens, Rowan, Hope & Thompson, 1 Cook, is approaching the Eutaw formation.

Two new wildcats are due for considerable attention. Petroleum Exploration, 1 Vandevere, located northeast of Tinsley, is well regarded by geologists. In Marshall County, along the north edge of Mississippi, C. B. Blosser of Memphis has staked No. 1 Charlotte Stansback in 19-3s-4w, the county's first test in recent months.

Tinsley production has again increased as new outlets provide for runs in addition to the purchases by Standard Oil Co. of Louisiana. The E. C. Johnston refinery at Vicksburg and the Coastal Petroleum Co. plant at Mobile, Ala., are being charged with Tinsley crude, and other crude is being run to storage in the field, and moving to Good Hope and La Rosa, La.

LEGAL

U. S. Department of the Interior, General Land Office, Washington, D. C. Sale of oil and gas leases in Oklahoma. Notice is hereby given that leases of the oil and gas deposits in the following lands in the known geologic structure of the Red River oil field, Oklahoma, defined October 18, 1928, are offered to the responsible qualified bidder of the highest bonus per acre pursuant to the provisions of section 17 of the leasing act of February 15, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the office of the Geological Survey, Post Office Building, Ardmore, Oklahoma, at 10 o'clock A. M. on August 21, 1940: Unit No. 1: Beginning at a point in the river bed, South 61° 35' E., 117.40 chains from the Texas-Oklahoma Boundary Survey reference Monument, "North Range Line, 15/14," which is 45.4 links south of the corner of Secs. 1, 6, 7, and 12, T. 5 S., Rs. 14 and 15 W., Ind. Mer., Oklahoma, thence in the river bed, along the East boundary of the Lone Star (upper tract) south 17.50 chains, to the Texas-Oklahoma boundary and the S.E. corner of the Lone Star (upper tract); thence along the boundary North 40° 09' E., 3.60 chains, North 44° 06' E., 3.13 chains, to the West boundary of the Burke Divide Lease (middle lease); thence in the river bed, along the West boundary of the Burke Divide Lease (middle lease) North, 12.50 chains, to a point which is the N.E. corner of the Corts Drilling Company and a common corner to the Burke Divide Lease (middle lease); thence in river bed, along the South boundary of the Burke Divide Lease (middle lease) West, 4.50 chains, to place of beginning, containing 6.7 acres. Unit No. 2: Beginning at a point on the north line of the Sam Sparks Survey, South 46° 49' E., 104.63 chains from the Texas-Oklahoma Boundary Survey reference monument, "North Range Line 15/14," which is 45.4 links south of the corner of Secs. 1, 6, 7, and 12, T. 5 S., Rs. 14 and 15 W., Ind. Mer., Oklahoma, thence along the north line of the Sam Sparks Survey South 60° 04' W., 18.77 chains, South 76° 15' W., 4.00 chains, to east boundary of the Burke Divide upper permit; thence in river bed along the boundary of the Burke Divide upper permit, South 2.08 chains, East 20.15 chains, to the Southwest corner of the Burke Divide upper lease; thence in the river bed along the west boundary of the Burke Divide upper lease, North 12.40 chains to place of beginning, containing 13.5 acres. Unit No. 3: Beginning at the NW cor. of the Melish lower permit, Guthrie 014088. Thence N. 12° 30' W., 2.15 chains, more or less, to the medial line of Red River. Thence following the medial line, southwesterly, 26.20 chains, approximately, to the east bdy. of the Mutual lease. Thence along the east bdy. of the Mutual lease, S. 12° 30' E., 0.90 chains, more or less. Thence along the bdrs. of the Melish middle lease, N. 57° 30' E., 6.38 chains, N. 76° 30' E., 5.95 chains, S. 12° 30' E., 38.00 chains, more or less, to the Texas-Oklahoma Bdy. Thence along the said State bdy. line, easterly, 34.00 chains, more or less, to a point. Thence N. 8° 00' W., 1.00 chain, more or less, to the SE cor. of the Melish lower lease. Thence along the bdrs. of the Melish lower lease and permit, S. 76° 00' W., 19.78 chains, N. 12° 30' W., 40.00 chains, to the place of beginning, containing approximately 64 acres, subject to variation arising from changes in the position of the medial line and of the south bank of the river since December 31, 1923. Unit No. 4: Beginning at the SE cor. of the Melish lower lease, Guthrie 014088. Thence S. 8° 00' E., 1.00 chain, more or less, to the Texas-Oklahoma Bdy. Thence along the said bdy., northeasterly, 68.00 chains, more or less Thence, west, 21.00 chains, more or less, to the east bdy. of the Patterson lease. Thence along the bdy. of the Patterson lease, south 10.00 chains, to the SE cor. of the Patterson lease, west 17.50 chains, to the SW cor. of the Patterson lease, north 22.80 chains, to the NW cor. of the Patterson permit. Thence north, 2.40 chains, more or less, to the medial line of Red River. Thence along the medial line, southwesterly, 46.00 chains, more or less, to the east bdy. of Unit No. 3. Thence S. 12° 30' E., 2.15 chains, more or less, to the NW cor. of the Melish lower permit. Thence along the bdrs. of the Melish lower permit and lease, N 76° 00' E, 20.00 chains N. 52° 30' E., 3.45 chains, S. 8° 00' E., 41.55 chains, to the place of beginning, containing approximately 150 acres, subject to variation arising from changes in the position of the medial line and of the south bank of the river since December 31, 1923. Two or more units may be consolidated in a single lease to the same qualified bidder provided the acreage does not exceed the maximum prescribed by law. The successful bidder must deposit on the day of the sale a certified check on a solvent bank or cash for 1/5 of the amount of each bid and file the showing of qualifications to receive a lease, required by section 7 of General Land Office Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre must be paid, and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Commissioner, General Land Office.

MISSISSIPPI

Hinds County

Harvey Robinson and J. P. Frame, 1 Alford, SW SE 18-6n-1e. Set 10¾-in. csg. 750 ft.; D.S. stuck 3,094 ft.; rec. all but 200 ft.; S.D.

Jefferson Davis County

Exchange, 1 J. J. Newman Lbr. Co., SE SE NE 36-7n-19w. Set 13⅜-in. csg. 516 ft.
J. W. Richardson, 1 M. Berry, C SW NE 15-9n-19w. T. Selma 6,642 ft.; drlg. hd. chalk 7,843 ft.

Jones County

T. N. Smith, 1 Hollifield, NW SW NW 20-8n-12w. Spdg.
R. W. Williams, 1 Eastman-Gardner, NE SW 7-8n-12w. Drlg. sh. 2,329 ft.

Kemper County

R. M. Crabb et al, 1 Land, NW NE 12-10n-14e. Drlg. 786 ft.

Monroe County

Willmut, 1 Rye, 300 ft. N and E, C 22-15n-17e. Set 10¾-in. csg. 625 ft.; drlg. 2,700 ft. (cor.).

Montgomery County

W. O. Allen, 1 J. C. Palmertree, SE SW 30-17-7e. M.I.M.
Gulf, 1 Fred Parker, SE SW 22-19n-7e. T. Selma 450 ft.; T. Eutaw 1,265 ft.; T. Tuscaloosa 1,575 ft.; cg. 3,420 ft.; no shows.
E. R. Henderson, 1 Columbian Mutual Life Ins. Co., 36-21-5e. Drlg. chalk 2,016 ft.

Perry County

Fohs, 1 Bond Lbr. Co., 907.5 ft. N, 660 ft. W, C 17-1s-11w. T. Selma 5,950 ft.; drlg. hd. chalk 7,895 ft.

Prentiss County

Home Dev., 1 Mrs. A. Allen, 8-7s-9e. Drlg. 1,917 ft.

Scott County

E. L. Martin, 1 Newell Mineral Lse. Co., N½ NE NE 5-6n-7e. Drlg. 8,535 ft.

Tallahatchie County

I. P. Lerew, 1 L. Westbrook, SE SE 18-23n-2w. Spudded.

Yazoo County

Barnsdall, 1 T. R. Woodruff, NW NW 6-10-2. Loc.
Joe Dawson, 1 J. W. Mullican est., NW NW 19-11n-3w. Spudded.
Edward DeLoach, 1 Wilburn, 6-12n-3w. R.U.
Leon Dunn, 1 H. H. Pepper, 26-12n-2e. T.D. 4,943 ft.; S.D. (cor.).
Exchange, 5 Wilburn, 440 ft. S, 220 ft. E, NW cor. 31-12n-3e. T. Eutaw 4,805 ft.; cd. 4,820-35 ft.; rec. 8 ft., 2 ft. shly. sd., 5 ft. sdy. sh., 1 ft. por. sd., bleeding oil; cd. 4,868-74 ft.; very por. sd.; salty taste; pulled in drk. while trying D.S.T.; D.S. stuck; fsg.
Exchange and Kingwood, 6 Wilburn, 1,320 ft. S, 440 ft. W, NE cor. 31-12-3. Cg. 4,971 ft.
Hassie Hunt, 3-B Lammons, SE SE 36-11n-3w. Cd. 4,960-85 ft.; rec. sd.; D.S. testing.
E. C. Johnston, 5-B Brumfield, NW SE 2-10-3. Drlg. sh. 4,577 ft.
Jones & O'Brien Bros., 3-C Stevens, SE NE 11-10-3. R.U.
Magnolia, 1 Milner, NW NW 7-10-2. Drlg. sh. 3,917 ft.
Magnolia, 2 J. J. Milner, SW SW 6-10-2. 10¾-in. csg.; W.O.C.
Rowan, Hope & Thompson, 1 Cook, 440 ft. S, 330 ft. E, NW cor. 6-11n-3e. Drlg. 3,547 ft.
Union Prod., 1 Adcock, SE NE 24-10-3. 10¾-in. csg. 597 ft.; W.O.C.
Union Prod., 1 Powell, SE SW 36-11-3. Cd. oil sd. and strks. L. & sh. 5,358-98 ft.; D.S.T. 5,330-98 ft.; rec. 60 ft. salty oily mud; no pressure.
Union Prod., 5 Twiner, 2,019 ft. S, 2,118 ft. W, NE cor. 1-10-3. Tstd. S.W. and oil 5,454-96 ft.; set 7-in. csg.; W.O.C.

ALABAMA

Franklin County

E. O. Heath, 1 W. O. Hester, SW SW 4-6s-12w. R.U.C.T.

Lawrence County

D. V. Mann et al, 1 Jackson, NE NE 30-7s-6w. Set surf. csg.; drlg. 1,660 ft., S.G.

Marion County

Seaboard, 1 Clark et al, 360 ft. W, 660 ft. N, SE cor. SE SW 28-11s-14w. Drlg. hd. L. 2,179 ft.

Mobile County

Tom Daly et al, 1 Fort, NW SE SE 2-6s-4w. S.D. 6,518 ft.; will deepen to 8,500 ft.

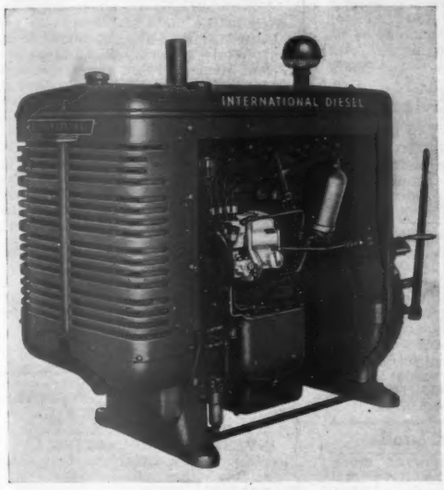
Walker County

Champlin, 1 Galloway Coal Co., 12-13s-10w. Set 12-in. csg. 1,100 ft.; fsg. job 1,749 ft., comp.; W.O. heavier tools.

EQUIPMENT PROGRESS...

New Models of International Diesel Power Units Are Put on Market

Several months ago the International Harvester Co., Chicago, announced its new modernly styled 100-hp. Model UD-18 diesel power unit. Now, three new simi-



larly styled and engineered International power units, all smaller than the UD-18, are announced. They are the UD-6, smallest in the new line, which develops 39 hp. at 1,500 r.p.m.; the UD-9, which develops 53 hp. at 1,500 r.p.m.; and the UD-14, which develops 66½ hp. at 1,300 r.p.m.

International diesels are full diesel engines. They are provided with a distinctive method of starting by which each starts on gasoline and, after a minute or less of operation, shifts to full diesel operation. When the changeover is made, spark plugs, carburetor, and auxiliary combustion chambers used on the gasoline cycle are shut off and have no connection with the diesel operation. International diesels may be cranked by hand as easily as gas engines of like size. An inexpensive standard 12-volt electric starting system may be utilized to provide electric starting.

Other features of each new model are four-cycle, valve-in-head design; long-life cylinders with full-length jackets; full-pressure lubrication through drilled passages; oil pump with Floto screen; Tocco-hardened crankshaft; heavy-duty precision bearings; bypass type thermostatically controlled cooling; full-floating water-pump shaft; full-floating piston pins; variable-speed governor; large-diameter flywheel; large-capacity oil-bath type air cleaner; renewable-element oil filters; equipment combinations to meet wide variety of requirements.

Water-Lubricated Chromium Pump Bearing Developed

By heavy application of electrolytically deposited chromium over a monel stainless sleeve which has been swedged into a vertical pump shaft, a new type of water-lubricated bearing has been produced by Peerless Pump Co., of Los Angeles, Calif. The process has been perfected for use in deep-well vertical pumps. The pump shaft is armored with heavy chromium over a noncorrosive metal sleeve every 10 ft. These sections of the shaft operate within resilient cutless-rubber journals, which are fluted and are non-revolvable. Any sand in the water flushes through the bearing. Because of the extreme hardness and thickness of the chrome, and its bearing contact with cutless rubber, no abrasion occurs, according to Peerless engineers.

Heretofore use of a chromium surface was not satisfactory, due to its microscopic porosity, its thin wall and its eventual disruption from the carbon steel to which it was usually bonded. By the new process the chromium is electrolytically deposited to monel to a thickness of approximately 0.003 in., which is more than 50 times as thick as ordinary automative chromium plating and several times the thickness of chrome heretofore applied. In pumps placed under accelerated life tests, pumping water heavily laden with sand, the results indicate a shaft life of 27 times that of an ordinary carbon-steel shaft.

Hill Appointed Branch Manager

John A. Roebling's Sons Co. of Trenton, N. J., has announced the appointment of Robert A. Hill as branch manager of the Southwest territory which now includes, Texas, Oklahoma, Louisiana, lower Mississippi, and oil-producing sections of New Mexico. He will have charge of sales and local stock of Roebling's complete line, which includes wire rope, electrical wires and cables, cold-rolled flat wire and specialties, and woven-wire fabrics.

Mr. Hill is a native of the Southwest, worked his way through Rice Institute, at the same time participating in athletics, and will make his headquarters in Houston, Tex. His previous business and technical experience totals nearly 20 years of association with the oil industry. Recently Mid-Continent manager for Regan Forge & Engineering Co., he was previously division manager for Broderick & Bascom Wire Rope Co.

New Wheland Swivel Designed For Deep Wells, Heavy Loads

Designed for deep wells and heavy loads, the new Model E-7000 Wheland swivel is announced by the Wheland Co., Chattanooga, Tenn. The new swivel has a capacity of 464,300 lb. at 100 r.p.m. and weighs only 3,400 lb. The swivel is carefully engineered for speed, performance and flexibility.

Spring-loaded and lubricated, the swivel is equipped with wash-pipe packing, and includes many other features which are emphasized by the manufacturer in their Bulletin 167, which completely illustrates and describes the device. Among these features are oil-bath lubrication, manganese vanadium steel body and large trunnions for bail cast integral with the body and practically in line with the main-load bearing. All packings are automatically adjusted and lubricated through Alemite fittings. The lower stem-lubricated packing is triple-sealed, nonadjustable, no glands to adjust or nuts to work loose. The stem is removable without disconnecting the coupling.

Kohler Appoints Distributor

The S. A. Long Co., Inc., 146 N. Market Street, Wichita, Kans., pioneer major electrical appliances distributor, has been appointed distributor for Kohler electric plants in Kansas and northern Oklahoma. In addition to maintaining a complete stock of parts, the company employs a staff of factory-trained mechanics, and offers day and night service throughout the fields in their trade territory.

THREE PROMOTIONS ANNOUNCED BY CARDWELL

The Cardwell Manufacturing Co., Inc., Wichita, Kans., announces the appointment of Arthur Harvey as general manager of the company. Mr. Harvey has been associated with the oil industry for many years and for the past 5 years has served as sales manager for the Cardwell company. After graduation from the engineering school of the University of Kansas, Mr. Harvey was employed as construction and maintenance engineer on various railroads, then served with the American Hoist & Derrick Co. as sales representative.

R. M. (Bob) Smith, former Illinois sales representative for Cardwell, succeeds Mr. Harvey as sales manager. Mr. Smith received his education in engineering at Washington University and was a draftsman for the McQuay-Norris Co. and sales manager for the W. B. McKnight Machinery Co. Before his connection with the Cardwell company, Mr. Smith was associated with various independent oil companies as field superintendent, superintendent of production, vice president, and production manager. E. R. Jukes has been appointed Illinois sales representative and will have his headquarters at Salem. Mr. Jukes is well known in the Illinois basin area and has had much experience in drilling and production procedure.

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WANTED: Competent party for Drilling and Operating Agreement, 480 acres of Federal B land in Twp. 17 S., Range 30 E., N.M.P.M., Eddy County, New Mexico. Address Mrs. Nellie N. Stevens, Las Cruces, New Mexico

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REFINERY EXECUTIVE thoroughly trained and experienced in design construction and operation of refineries and the manufacture of all products. Efficient, energetic, diplomatic. Desires permanent connection or design construction and operation on partnership basis. Now employed. Box K-675, The Oil and Gas Journal, Tulsa, Oklahoma.

PRODUCTION superintendent. Eight years petroleum engineering and superintending production for small company. Experienced with gas lift, repressuring, pumping wells. Would be interested in minor job that has future. Will travel. Box K-735, The Oil and Gas Journal, Tulsa, Oklahoma.

CHIEF chemist with thirteen years experience with major oil company desires technical or operating position with progressive company large or small. Thoroughly familiar with Dubbs and skimming plant operations, stabilization, treatment of gasoline and light fuels, blending of gasolines and heavy fuels. Box K-732, The Oil and Gas Journal, Tulsa, Okla.

ACCOUNTANT—Office Manager, 12 yrs. experience in oil industry, 2 yrs. public accounting; capable of handling income tax, Social Security and wage-hour matters. Employed but desires change. Box K-730, The Oil and Gas Journal, Tulsa, Oklahoma.

CONTROLLER—EXECUTIVE ACCOUNTANT — PROFESSIONAL DIRECTOR, Hard-hitting executive, 31, thoroughly qualified accountant, personality, exceptional ability, practical knowledge of production and refining costs, administrative problems, budgets, systems, taxes, financial reports. Salary reasonable. Box K-741, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch ..... 1 time $5.00
1 Inch ..... 13 times ..... 4.50 per inch
1 Inch ..... 26 times ..... 4.00 per inch
1 Inch ..... 52 times ..... 3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment | **For Sale—Equipment** | **For Sale—Equipment** | **For Sale—Equipment**

FOR SALE

Either or both of these drilling outfits at reasonable price if taken at once.

1—Jumbo D Fort Worth Spudder complete with either diesel or gas drilling unit. Tools from 15-in. to and including 5-in. This outfit now running east of St. Joseph, Mo., in Forest City basin.

1—Wichita Falls 56 Heavy Duty Spudder with or without diesel power unit and tools from 18-in. to 5-in. Now running at Lost Springs, Kans.

ALSO

53 ft.—15-in. 60-lb. Casing.
200 ft.—12-in. 60-lb. Casing.
1,400 ft.—10-in. 45-lb. Casing.
1,500 ft.—8-in. 32-lb. Casing.
2,300 ft.—6⅝-in. 24-lb. Casing.

The Veeder Supply and Development Co.
P.O. Box 270
Cherryvale, Kans.

FOR SALE

One gasoline drilling rig with two 85 H.P. Waukesha motors and unitized draw works complete.

10,000 Ft. 2½" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

Louisiana Iron & Supply Co.
Shreveport, La.

• REFINERY EQUIPMENT • VALVES & FITTINGS • STORAGE TANKS

• PRESSURE VESSELS • PIPE—ALL SIZES

Write Now for Your Copy of Our New Listings

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry and H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Dudan
2100 S. Union, Tulsa, Oklahoma

FOR SALE: 7 ft. x 20 ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

7000' 4" STANDARD pipe plain end 30' lengths good condition price 15c cash. M. J. REGAN, Coffeyville, Kansas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

45-C STAR SPUDDER priced to sell excellent condition; mounted dual tires; 8 inch "A" Pole Mast PA100 International Engine. Located Butler County, Kansas. P.O. Box 135, Eldorado, Kansas. Phone 208.

FOR SALE: 5000 ft. 6" No. 1 line pipe. T&C, 55c per ft., f.o.b. St. Louis. Will deliver to any point in Oklahoma or Texas within 1000 miles of St. Louis, for 10c per ft. Valley Steel Products Co., St. Louis, Mo.

TRACTORS

Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

FOR SALE—6,000 ft. 4" reclaimed line pipe, all new threads and couplings; also 1", 1¼", 2", 3", 5", 6", new threads and couplings where needed; pipe from 1" to 4" steam tested. Phone Warren 2171-R or Kane 71.

KANE SUPPLY CO.
Clarendon, Pa.

Survey Service

REMEMBER EAST TEXAS

When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

Equipment Wanted

WANTED One used gas engine booster capable handling five million gas per day. Bax 391, Borger, Texas.

WANTED one paraffin wax mold, must be in good condition. Give complete information first letter. Box K-733, The Oil and Gas Journal, Tulsa, Okla.

USED colorimeter, flash point carbon and cold testing equip., electric centrifuge. Box 40, The Inn, Iowa.

TWO old style wood beam (camel back) jacks with direct drive oil engines. Jos. Greenspon's Son Pipe Corp., National Stock Yards (St. Clair Co.), Ill.

Exchange Equipment

WILL trade refinery equipment three 85 HP Hercules Diesel Engines and power plant for model A 401-A pr model J 451-A Podbielniak Manually Operated Low Temperature Fractional Distillation Apparatus, 100 HP and 125 HP Exhaust Steam Turbines, Admiralty metal open condenser sections. Must be in good condition. Box K-740, The Oil and Gas Journal, Tulsa, Oklahoma.

New York Markets

(Continued from Page 105)

sulted in some delay. However, a noticeable reduction in package shipments abroad has been noted in the past week.

The report that the Mexican Government was in the market for a large quantity of lubricating oil, reportedly from 2 to 3 million gallons, failed to have any reaction. According to the report, the lubricating oil would be paid for with Mexican crude oil. Whether or not this exchange would be sufficiently attractive to domestic companies to complete the proposed transaction could not be learned.

Pennsylvania lubricating-oil prices remained unchanged for another week with 25-pour, 150-viscosity neutral remaining at 19 to 20 cents and 200-viscosity neutral at 21 to 22 cents.

Evidence of the weakness in the Pennsylvania market is contained in the announcement of the Bradford Oil Refining Co. that it had reduced its posted price of Bradford field crude to $1.75, 25 cents per barrel under the other quotations. Similar action several weeks ago was followed by a general price cut and if the company is successful in obtaining crude at the new price, it is probable that a general reduction will be forthcoming. Dependence of the Pennsylvania refiner on lubricating oils for a profit has resulted in substantial losses, financial reports show, since the abrupt decline in prices was inaugurated some months ago. While Pennsylvania neutral prices are exceptionally strong, bright stock prices have slipped under Mid-Continent prices without stimulating business.

Gulf Coast Markets

(Continued from Page 105)

stocks and the lighter grades, are holding fairly firm in price in anticipation of impending heavy buying for seasonal requirements. Low tanker rates now in effect, the lowest during the past year, are expected to be an inducement for buyers to fill their expected requirements early.

The pressure of slackened new business and accumulating stocks has undermined coastal lubricating-oil markets with quotations on the various grades cut from a quarter to more than a cent. Not only have takings on contracts been curtailed but practically no new business is coming in.

Texas Railroads Reduce Refined-Product Rates

A substantial reduction of railway rates in the transportation of gasoline, kerosene, and distillate, making possible a great saving to shippers, was inaugurated August 6 by all Texas railroads. Paul P. Hastings, vice president of Santa Fe Railway, has announced. Based on mileage, the reductions range from 2½ cents per 100 lb. on a 30-mile haul to 8 cents for 200 miles. The commission's authority was in response to the joint application of the Texas railroads seeking to meet increased truck competition. The reduced rates will provide a great saving to shippers, as in many instances they are lower than ever before, according to officials.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the August 1 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.00

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast, Texas
14-14.9	$0.65	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.80
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
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*Effective Feb. 1, 1940.

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